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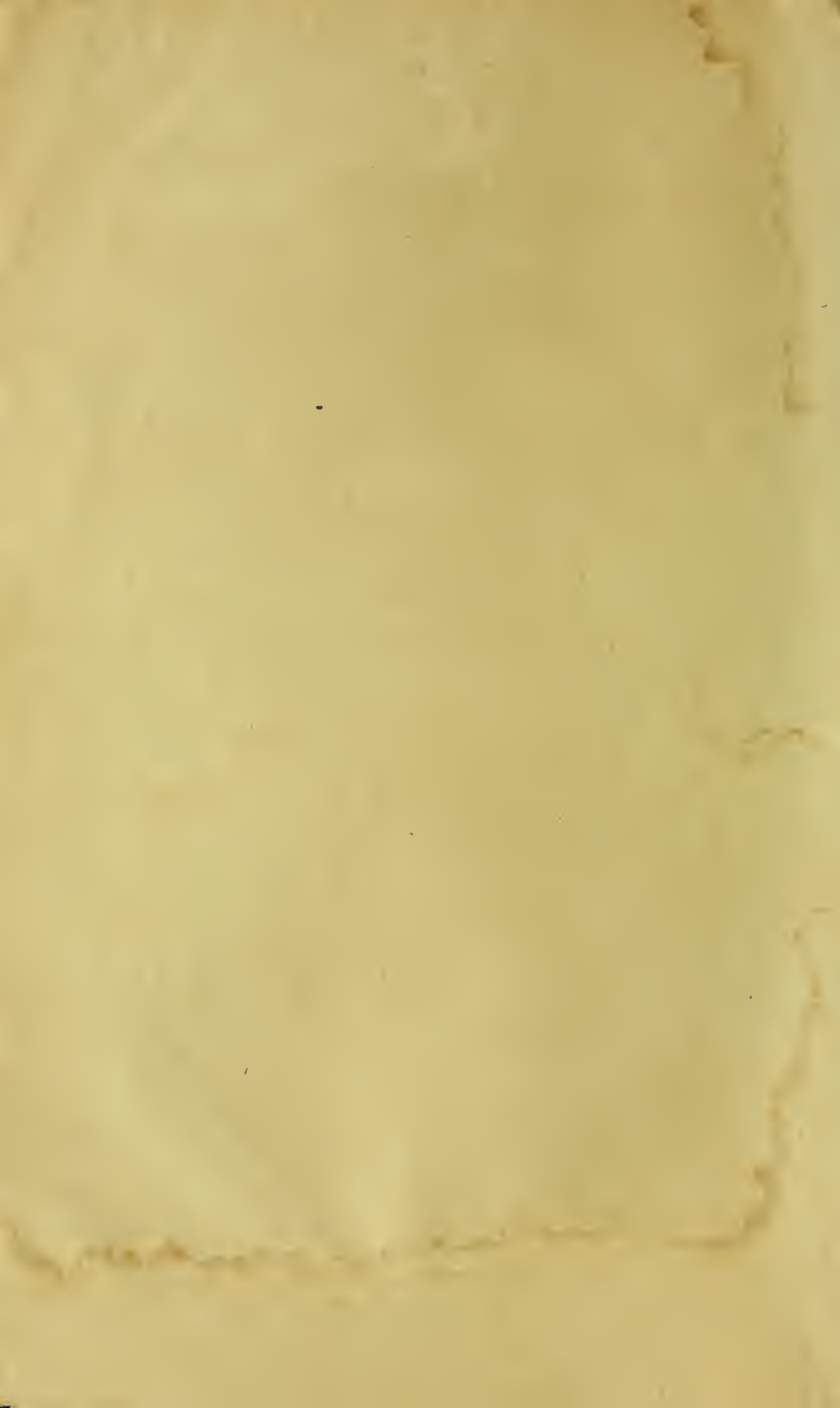
THE TWENTY-FOURTH  
ANNUAL REPORT  
OF THE  
Receipts and Expenditures  
OF THE  
CITY OF CONCORD,  
FOR THE FISCAL YEAR ENDING  
FEBRUARY 1, 1877,

TOGETHER WITH OTHER ANNUAL REPORTS AND PAPERS  
RELATING TO THE AFFAIRS OF THE CITY.



CONCORD, N. H.:  
PRINTED BY THE REPUBLICAN PRESS ASSOCIATION.  
1877.

NEW HAMPSHIRE  
STATE LIBRARY



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THE TWENTY-FOURTH

# ANNUAL REPORT

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## MUNICIPAL REGULATIONS.

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CITY CLERK'S OFFICE, }  
CITY OF CONCORD, FEB. 1, 1877. }

*To persons having claims against the city:*

All persons furnishing materials or service for the city, or aid to city paupers, should be particular to take the name of the person ordering such service, material, or aid, and should *know* that the person is duly authorized to contract said liability.

The city will not be holden for merchandise sold or delivered on city pauper account, except on the written order of the Overseer of the Poor, and for no longer time than until his successor shall have been appointed and qualified.

Duplicate copies will be required of all bills payable by the city, furnished on county pauper account.

All bills against the city must be approved by the person authorizing the charge; and unless this is done, no action can be had upon the bill by the committee on accounts, and no order will be given for its payment.

When bills are certified to as above, and left with the city clerk before twelve o'clock of the day of meeting of the Committee on Accounts, they will be audited by them, and, if approved, be ready for payment on the Wednesday following.

Meetings of the committee are held on the Thursday next preceding the last Saturday of each month, at two o'clock P. M., which will occur the present year, Feb. 22, March 24, April 26, May 24, June 28, July 26, August 23, Sept. 27, Oct. 25, Nov. 22, Dec. 27, Jan. 24, 1878, Feb. 21.

C. F. STEWART, *City Clerk.*

# CITY GOVERNMENT,

CONCORD, N. H., 1876-7.

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MAYOR,

GEO. A. PILLSBURY.

BOARD OF ALDERMEN.

- Ward 1. John Whittaker.  
" 2. John G. Tallant.  
" 3. Andrew J. Holmes.  
" 4. Samuel W. Shattuck.  
" 5. George A. Cummings.  
" 6. Byron G. Merrill.  
" 7. Isaac N. Abbott.

CHARLES F. STEWART, *City Clerk.*

COMMON COUNCILMEN.

HENRY CHURCHILL, *President.*

- Ward 1. Andrew P. Bennett, Frank G. Chandler.  
" 2. Elbridge Emery, John T. Tenney.  
" 3. Charles H. Merrill, Benjamin T. Putney.  
" 4. George H. Hill, John C. Thorn.  
" 5. George A. Foster, George F. Underhill.  
" 6. Calvin C. Webster, Lewis B. Hoit.  
" 7. Henry Churchill, William Stevenson.

LEWIS L. MOWER, *Clerk.*

## JOINT STANDING COMMITTEES.

*On Finance*—The Mayor, Alderman Abbott; Councilmen Hill and Underhill.

*On Accounts and Claims*—Alderman Cummings; Councilmen Webster and Thorn.

*On Lands and Buildings*—Alderman Whittaker; Councilmen Thorn and Tenney.

*On Public Instruction*—Alderman Abbott; Councilmen Bennett and Putney.

*On Streets and Commons*—Alderman Holmes; Councilmen Emery and Chandler.

*On Roads and Bridges*—Alderman Shattuck; Councilmen Foster and Emery.

*On Fire Department*—Alderman Merrill; Councilmen Stevenson and Underhill.

*On Lighting Streets*—Alderman Shattuck; Councilmen Webster and Hoit.

*On City Farm*—Alderman Cummings; Councilmen Stevenson and Merrill.

*On Cemeteries*—Alderman Tallant; Councilmen Foster and Hill.

## STANDING COMMITTEES IN BOARD OF MAYOR AND ALDERMEN.

*On Elections and Returns*—Alderman Abbott.

*On Engrossed Ordinances*—Alderman Tallant.

*On Bills on Second Reading*—Alderman Whittaker.

*On Police and Licenses*—The Mayor and Alderman Shattuck.

*On Sewers and Drains*—Mayor Pillsbury; Aldermen Cummings and Merrill.

## STANDING COMMITTEES IN COMMON COUNCIL.

*On Elections and Returns*—Councilmen Bennett, Webster, and Emery.

*On Bills on Second Reading*—Councilmen Stevenson, Putney, and Hill.

*On Engrossed Ordinances*—Councilmen Foster, Chandler, and Hoit.

## CITY OFFICERS.

*City Clerk*—C. F. Stewart. Office in City Hall building, south entrance; house, 267 Main street.

*City Treasurer*—Samuel C. Eastman. Office, Rumford block, Main street, up stairs.

*City Solicitor*—Charles P. Sanborn. Office, Sanborn's block, corner Main and Capitol streets, up stairs.



*City Marshal*—John Connell. Office, corner Main and Warren streets, up stairs.

*Assistant Marshal*—John Chadwick, Fisherville.

*City Physician*—Granville P. Conn. House, Main street, opposite Montgomery street.

*Assistant City Physician*—Wm. H. Hosmer, Fisherville.

*Collector of Taxes*—Charles T. Huntoon. Office, Brown's block, Warren street, up stairs.

*Police Justice*—Sylvester Dana.

*Special Police Justice*—A. B. Thompson.

*Clerk of Police Court*—R. P. Staniels.

*Board of Education Union School District*—Elisha Adams, P. Brainard Cogswell, Henry J. Crippen, Oliver Pillsbury, Charles P. Sanborn, Warren Clark, D. C. Allen.

*Overseer of the Poor for Wards 3, 4, 5, 6, and 7*—C. F. Stewart.

*Health Officers*—John Connell, Dr. G. P. Conn, and Alderman Cummings.

*Night Watch*—James E. Rand, Charles H. Jones.

*Messenger*—R. P. Sanborn.

*Assessors*—Cyrus Runnells, John B. Sanborn, Timothy Carter, Charles Woodman, Curtis White, George S. Dennett, Andrew S. Smith.

*Superintending School Committee for Wards 1, 2, 3, and 7*—Rev. A. Burnham, Abiel Rolfe, William W. Flint.

*Trustees of the Public Library*—Ward 1, Rev. A. W. Fiske; Ward 2, Joseph T. Glough; Ward 3, Rev. J. W. Colwell; Ward 4, Rev. F. D. Ayer; Ward 5, George E. Jenks; Ward 6, John L. Stanley; Ward 7, Amos Blanchard; Librarian, F. S. Crawford.

*Board of Water Commissioners*—Benjamin A. Kimball, term expires March 31, 1878; John M. Hill, term expires March 31, 1878; Samuel S. Kimball, term expires March 31, 1879; Luther P. Durgin, term expires March 31, 1879; John S. Russ, term expires March 31, 1877; Abel B. Holt, term expires March 31, 1877; George A. Pillsbury, *ex-officio*. President, Benjamin A. Kimball; Clerk, John M. Hill; Superintendent, V. C. Hastings. Office, White's Block.

*Superintendent of Repairs of Highways and Bridges*—Geo. A. Pillsbury.

*Old and Blossom Hill Cemetery Committee*—Charles C. Lund, Charles Woodman, James H. Chase.

*East Concord Cemetery Committee*—John T. Batchelder, William A. Bean, and Joseph E. Plummer.

*Fisherville Woodlawn Cemetery Committee*—Charles C. Bean, John G. Warren, John A. Coburn.

*West Concord Cemetery Committee*—Simeon Abbott, Chandler Eastman, Timothy Carter.

*Engineers of the Fire Department*—Chief Engineer, James N. Launder; Assistant Engineers, N. H. Haskell, Daniel B. Newhall, C. M. Lang, Joseph S. Merrill, William D. Ladd, Moses H. Bean, Cyrus R. Robinson, Wyman W. Holden.

*Steward of Central Fire Station*—Eben F. Richardson.

*Superintendent of Poor Farm*—Lucius L. Farwell.

*Police Officers*—John Connell, Charles H. Jones, James E. Rand, Jacob E. Hutchins, Harrison Partridge, James M. Jones, Charles W. Davis, John Chadwick.

*Undertakers*—For Old and Blossom Hill Cemeteries, Charles Crow; Ward 1, Fisherville, John A. Coburn; Ward 2, East Concord, George W. Moody; Ward 3, West Concord, Simeon Partridge; Millville, William H. Currier; Horse Hill Cemetery, George Abbott.



# REPORT

## OF THE

### COMMITTEE ON FINANCE,

FEBRUARY 1, 1877.

The Joint Standing Committee on Finance respectfully submit their annual report of the receipts and expenditures of the financial department of the city government for the year ending January 31, 1877.

#### RECEIPTS.

Cash on hand February 1, 1876,	\$3,415.60
Wm. H. Allison, collector, taxes 1874,	1,695.00
“ “ “ 1875,	30,250.00
Interest on taxes, 1874,	285.00
“ 1875,	500.00
C. T. Huntoon, collector, taxes 1876,	134,000.00
Borrowed of sundry individuals,	52,200.00
County of Merrimack paupers,	2,801.25
State of New Hampshire Savings Bank tax,	14,473.59
State of New Hampshire, Railroad tax,	16,632.56
“ “ Literary fund,	1,132.20
“ “ Insurance tax,	1.87
Interest on Water-works bonds,	120.00
Charles Woodman, incidentals,	251.77
County of Merrimack,	15.77
Geo. A. Pillsbury, Fire Department, horse sold,	125.00
Geo. A. Pillsbury, land sold,	100.00

H. Partridge, city farm,	\$18.65
County of Merrimack, city farm,	471.32
Good Will Hose Co., Fire Department,	15.50
J. E. Clifford, Liquor Agency,	50.00
C. F. Stewart,            "	8.00
Geo. A. Pillsbury,       "	146.33
D. A. Macurdy, city pauper,	5.00
C. F. Stewart,           "	87.00
C. H. Amsden,           "	2.00
A. Coleman,             "	34.86
Town of Weare,          "	137.00
Ruel West,              "	3.50
\$5,600 Precinct notes, and interest,	5,620.95
James E. Rand, licenses,	115.00
Crowley & Quinn, stone quarries,	71.89
Asa H. Morrill, bridge lumber,	30.00
Sewer notes,	40,000.00
"           premium on same,	2,480.00
"           interest on same,	698.07
Sylvester Dana, Police Justice,	895.27
State of N. H., sewer on Capitol street,	210.80
Horace Call, dog tax,	2.00
Geo. A. Pillsbury, roads and bridges,	561.50
C. T. Huntoon,           "	230.48
Blossom Hill Cemetery, sales,	2,028.65
Geo. A. Pillsbury, sewers and drains,	43.71
H. Ordway and others, interest on note,	12.00
Geo. A. Pillsbury, stone sold, incidentals,	2.00

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\$311,981.69

#### EXPENDITURES.

Printing and stationery,	\$1,059.57
Precinct,	14,489.48
County tax,	16,344.22
School-house taxes,	9,228.34
Notes paid,	56,200.00
Sewers and drains,	53,928.06
Salaries,	5,105.00
Fire department,	8,899.36
Police and watch,	4,648.18
Roads and bridges,	20,479.00
Bonds paid,	12,500.00

Professional services,	\$215.00
City farm,	2,621.52
Fire station,	3,979.28
County paupers,	2,586.05
City paupers,	2,113.74
Public library,	1,331.67
Highway districts,	4,885.35
Superintendent of repairs of highways and bridges,	12,414.11
Schools,	28,917.49
State tax,	19,152.00
Committee service,	798.00
Interest,	14,830.87
Dog tax,	89.00
Incidentals,	4,909.33
Precinct notes paid,	5,900.00
Cemeteries,	2,215.40
	<hr/>
	\$309,840.02
Balance cash on hand,	2,141.67
	<hr/>
	\$311,981.69

CONCORD, Feb. 1, 1877.

We hereby certify that we have examined the books of the city treasurer, and those of the city clerk, and find that all the payments therein recorded are properly authenticated by appropriate vouchers, the several items correctly cast, and the cash balance in the hands of the treasurer is \$2,141.67.

GEO. A. PILLSBURY,	} Committee on Finance.
ISAAC N. ABBOTT,	
GEO. H. HILL,	
GEO. F. UNDERHILL,	

DETAILED STATEMENT OF EXPENDITURES  
OF THE CITY OF CONCORD FOR THE YEAR END-  
ING FEBRUARY 1, 1877.

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State tax, paid State Treasurer,	\$19,152.00
County tax, paid County Treasurer,	16,344.22

PAUPER ACCOUNT.

Unexpended balance, 1875,	\$1,637.52	
Appropriation, 1876,	2,500.00	
Received of Merrimack county, for sup- port of paupers, 1875,	2,801.25	
Received of D. A. Macurdy, money refunded,	5.00	
Received of C. F. Stewart, sundry per- sons,	76.00	
Received of C. H. Amsden,	2.00	
“ Anthony Coleman,	34.86	
“ Ruel West,	3.50	
“ Town of Weare for support of Charles H. Johnson,	137.00	
Received of Dr. Crosby, money re- funded,	11.00	
	<hr/>	\$7,208.13
Transferred to Supt. Repairs Highways and Bridges,		2,000.00
		<hr/>
		\$5,208.13

CITY PAUPERS.

Paid as follows:

Timothy Eastman,	\$19.50
John Connell,	28.80
J. W. Edgerly,	15.00
Martha M. Smith,	10.00
Timothy E. Hoit,	19.50
Batchelder & Co.,	5.00
George W. Corey,	1.00

John Chadwick,	\$3.75
City water-works,	3.00
State Reform School,	52.00
John Harrington,	34.05
N. H. Asylum for the Insane,	228.66
Lyman Merrill,	31.00
Ann M. Parker,	4.00
City water-works,	3.00
John C. Edgerly,	10.00
Edward Hodgman,	2.74
George B. Whittredge,	5.00
John Chadwick,	3.00
Dr. A. H. Crosby,	11.00
C. C. Webster,	10.00
George S. Locke & Co., 5 bills,	17.50
John Harrington,	36.78
N. H. Asylum for Insane,	185.19
State Reform School,	34.86
Daniel S. Webster,	3.50
Dr. G. P. Conn,	10.00
D. A. Macurdy,	3.00
James Presby for J. S. Burke,	75.00
Fred Burnham, " "	75.00
W. S. Blanchard, " "	42.00
Henry Churchill, " "	1.92
Dr. G. P. Conn, " "	69.00
John Chadwick,	5.00
Lucy Hutchins, for Everett Hutchins,	10.00
John Harrington,	34.63
William Williamson,	10.00
John Chadwick,	9.25
City water-works,	6.00
N. H. Asylum for Insane,	145.44
Timothy E. Hoit,	19.50
State Reform School,	26.00
John Chadwick,	2.25
Lyman Merrill,	60.00
Dr. J. H. Gallinger,	14.00
C. C. Webster & Co.,	23.00
J. W. Edgerly,	10.00
H. F. Campbell, ten cords wood,	55.00
Benjamin Thompson,	10.00
John Harrington, bill 1875,	29.98

Dr. G. P. Conn, bill 1875,	\$2.00
Timothy E. Hoit,	19.50
Albert Leavens, rent,	30.00
John Chadwick,	5.74
Mary E. Drake,	3.00
Walter Blanchard, groceries,	62.14
H. F. Campbell, wood,	52.50
Timothy Dorety,	10.00
George S. Locke & Co.,	3.50
John H. Hill,	3.40
Underhill & Kittredge,	1.65
Charles E. Ballard,	2.00
J. W. Edgerly,	10.00
C. Thorn & Son,	2.00
Timothy E. Hoit,	19.50
N. H. Asylum for Insane,	188.03
Dr. G. P. Conn,	14.50
John Chadwick,	1.95
John Harrington,	37.38
Woodworth, Dodge & Co.,	10.00
Eastman & Fitch,	22.81
Currier & Larkin,	26.00
State Reform School,	26.00
Lyman Merrill,	18.00
D. A. Macurdy,	6.00
Carter Brothers,	5.34
J. Frank Hoit,	7.00
	<hr/>
	\$2,113.74

## COUNTY PAUPERS.

### EXPENDITURES.

Paid as follows:

Josephine Lor,	\$6.00
William C. Powell,	9.00
L. W. Sargent,	2.10
Charles Crow,	13.00
Eastman & Shepard,	70.28
Susan Edmunds,	20.00
William Marsh,	6.00
J. W. Edgerly,	5.00
W. S. Baker,	21.00
Concord Railroad fare,	2.75



Eastman & Shepard,	\$39.28
John C. Linehan,	63.00
Brown & Foot,	40.00
David Abbott,	1.00
Jeremiah Smith,	10.00
Polly Davis,	9.00
Charles Dudley,	24.00
A. C. Carter,	18.00
Priscilla Walker,	2.00
Sarah E. Hamilton,	12.00
Nancy Dorety,	12.00
City water-works,	3.00
A. P. Bennett,	1.75
H. H. Aldrich,	2.00
John Whittaker,	5.50
William Powell,	13.00
Brown & Foote,	45.00
John C. Linehan,	15.00
Concord Railroad,	2.00
Eli Jacob, Jr.,	4.00
Mrs. H. M. Fletcher,	19.50
Sarah P. Lamprey,	26.00
William H. Allen,	3.25
Moses D. French,	4.00
John C. Edgerly,	10.00
C. C. Webster, six bills,	27.00
Wm. L. Buswell,	5.62
H. C. Sturtevant,	12.00
C. P. Virgin,	32.00
John Whittaker,	29.04
John C. Linehan,	62.50
Mrs. Charles Dudley,	24.00
Clara J. Dolan,	12.00
Charles E. Ballard & Co.,	33.00
Northern Railroad,	2.75
Sarah E. Hamilton,	12.00
Gardner K. Knowles,	65.00
Underhill & Kittredge,	1.00
Horace A. Brown,	19.50
C. C. Webster, eight bills,	31.00
Eastman & Fitch,	17.90
Brown & Foot,	44.00
C. Thorn & Son,	24.00

G. S. Locke & Co.,	\$17.00
Nancy Dorety,	12.00
William C. Powell,	13.00
J. W. Edgerly & Co.,	23.00
Sarah P. Lamprey,	38.00
A. C. Carter,	13.00
Daniel S. Webster,	7.00
Levi Thompson,	15.00
Dr. G. P. Conn,	110.00
D. A. Macurdy,	19.98
Concord Railroad,	3.00
M. E. Clough, wood,	1.87
Charles Crow,	20.00
Eastman & Shepard,	43.71
John S. Fiske,	31.00
John Whittaker,	21.00
Sarah E. Hamilton,	8.00
Mrs. Charles Dudley,	26.00
E. D. Clough & Co.,	5.00
Ann Holland,	23.00
City water-works,	3.00
Dr. C. C. Topliff,	30.00
Nancy Dorety,	12.00
Mrs. H. M. Fletcher,	19.50
A. C. Carter,	13.00
W. P. Underhill & Co.,	.90
William C. Powell,	13.00
John C. Linehan,	42.00
C. C. Webster,	13.00
J. W. Edgerly,	15.00
James H. Eastman,	6.00
Concord Railroad,	3.15
George W. Weeks,	5.00
Charles P. Virgin,	32.00
Benj. A. Thompson & Co.,	10.00
M. E. Clough,	21.63
Edward A. Clinton,	8.00
Concord Railroad,	17.50
Charles Dudley,	24.00
John Whittaker,	10.00
C. Thorn & Son,	26.75
Concord Gas Light Co.,	2.40
Samuel C. Clifford,	10.00

Mrs. Patrick Desmond,	\$13.50	
A. C. Carter,	13.00	
Geo. S. Locke & Co.,	11.50	
Benj. Thompson & Co.,	3.00	
Chas. E. Ballard,	33.90	
J. W. Edgerly,	13.00	
Chas. P. Virgin,	32.00	
C. Thorn & Son,	3.00	
Wm. C. Powell,	13.00	
Gardner R. Knowles,	65.00	
Dr. G. P. Conn,	42.00	
Geo. B. Whittredge,	18.00	
H. H. Amsden & Son,	1.50	
John Whittaker,	46.70	
C. C. Webster,	60.00	
S. L. French,	11.00	
Currier & Larkin,	66.00	
John Connell,	14.40	
Eastman & Shepard,	35.14	
Woodworth, Dodge & Co.,	25.00	
Chas. Dudley,	9.00	
Susan G. Wood,	32.50	
Nancy Dorety,	12.00	
Mrs. James H. Eastman,	13.50	
Philip Welcome,	5.00	
Mrs. L. D. Brown,	13.00	
Mrs. H. M. Fletcher,	19.50	
D. A. Macurdy,	13.00	
E. D. Clough & Co.,	3.00	
J. Frank Hoit,	61.00	
Geo. B. Whittredge,	17.00	
Franklin Evans,	56.15	
John Whittaker,	8.40	
H. Moore, Agent,	4.00	
John Whittaker,	7.25	
C. E. Ballard,	5.00	
Ira Plummer,	4.00	
	<hr/>	\$2,586.05
		<hr/>
		\$5,208.13
Balance unexpended,		\$508.34

## FIRE DEPARTMENT.

Balance of Appropriation 1875, unex-		
pended,	\$304.34	
Appropriation 1876,	9,000.00	
Good Will Hose Co.,	15.50	
George A. Pillsbury, for horse sold,	125.00	
	<hr/>	\$9,444.84

## Paid as follows :

W. P. Underhill, 1875,	\$ .65
Thomas O. Farrington, 1875,	61.10
William H. Allison, 1875,	8.00
Ranlet & Prescott, coal, 1875,	105.00
F. B. Underhill & Co., 1875,	1.65
D. Arthur Brown & Co., 1875, repairs,	12.12
Vogler Brothers, table,	10.00
Nathan Abbott,	2.40
Mrs. J. S. Bean,	1.80
E. H. Bracook, furniture,	246.00
James R. Hill, harness, &c., 1875,	55.95
James E. McShane, shoeing horses,	21.75
R. P. Sanborn, use of horse,	10.50
Shattuck & Emerson,	35.00
N. H. Haskell, painting and varnishing steamer and hose carriages,	225.00
City water-works,	26.00
M. H. Johnson,	15.92
Concord Railroad, freight,	5.88
John C. Ordway, hay,	18.80
L. C. Stevenson, teamster,	156.50
Charles Nixon, hay,	34.22
Concord Gas Light Company,	122.96
George E. Minot, washing,	4.00
Samuel Eastman & Co., hose,	700.28
W. C. Elkins & Co., repairs,	2.62
George A. Wilder, teamster,	100.00
Concord Railroad, freight on c a	3.60
M. E. Clough, wood, 6 bills,	31.50
Joseph Palmer & Co., repairs,	1.75
F. H. Odiorne, coal,	23.00

## PAY ROLLS TO AUGUST 1, 1876.

Engineers,	\$220.50
Kearsarge,	280.50
Eagle Hose, No. 1,	243.00
Alert Hose, No. 2,	243.00
Good Will Hose, No. 3,	243.00
Hook and Ladder, No. 1,	397.48
Pioneer, No. 1,	253.00
Old Fort, No. 2,	123.00
Cateract, No. 3,	123.00
	<hr/> \$2,126.48
George S. Minot, teamster,	112.00
D. S. Webster, wood,	15.00
George S. Minot, washing,	6.25
K. J. Goodhue, washing,	12.50
J. D. Sleeper, straw,	12.13
L. W. Sargent,	23.70
Concord Gas Light Co.,	21.30
H. J. Chandler, hay;	8.75
S. N. Cate, hay,	19.40
F. B. Underhill & Co.,	2.00
J. W. Hatch, hay,	20.90
Abram Bachelder, hay,	11.60
W. H. Garvin, hay,	38.00
Samuel Eastman & Co., repairs,	3.50
Hammond & Ayers,	1.25
City water-works,	26.00
Long & French, refreshments at annual parade,	150.00
Underhill & Kittredge, supplies,	55.31
John H. Morse, repairs,	73.25
D. C. Allen & Co., repairs,	27.62
John H. Morse, repairs gas pipe,	8.80
C. H. Martin & Co., supplies,	16.29
James E. McShane, horse-shoeing,	34.00
Ranlet & Prescott, coal,	165.00
John St. Clair,	15.00
Benjamin French,	11.25
Stevens & Duncklee, supplies 1875,	19.59
M. H. Johnson and others,	21.16
D. W. Long, repairs,	5.30
Ordway & Ferrin, repairs,	11.08

Concord Gas Light Co.,	\$70.72
George S. Young,	2.45
J. H. Lamprey, carrots,	5.00
T. J. Carpenter,	.95
J. P. Leavitt, hay,	27.05
Rufus P. Virgin, straw,	18.90
Cyrus Marden, hay,	9.23

## PAY ROLLS TO FEBRUARY 1, 1877.

Engineers,	\$220.50
Kearsarge,	280.50
Eagle Hose, No. 1,	243.00
Alert Hose No. 2,	243.00
Good Will Hose, No. 3,	243.00
Hook and Ladder, No. 1,	396.32
Pioneer, No. 1,	253.00
Old Fort No. 2,	123.00
Cateract, No. 3,	123.00
	<hr/> \$2,125.32
L. A. Wright, teamster,	242.31
Eben F. Richardson, steward,	450.00

## MISCELLANEOUS BILLS.

Humphrey, Dodge & Co.,	\$7.10
James R. Hill & Co.,	4.50
Stevens & Duncklee,	8.81
N. H. Dunbar,	19.55
Herman D. Webster,	20.00
Joel Weller,	8.75
Wyman W. Holden,	3.55
Charles H. Norton & Son,	133.50
A. & G. A. Foster,	20.00
Union Steam Mill,	15.25
L. A. Wright,	13.00
Woodworth, Dodge & Co.,	1.20
John H. Morse,	.20
Underhill & Kittredge,	11.80
K. J. Goodhue,	13.00
Gust Walker,	17.19
Stevens & Duncklee, two bills,	80.26
Flanders, White & Houston,	24.07
Philip Church,	1.25



D. Arthur Brown & Co.,	\$15.83	
Mrs. J. S. Bean,	8.50	
Evans & Gale,	1.66	
L. A. Bunnell,	8.20	
Samuel Eastman & Co.,	20.65	
E. H. Dixon, hay,	15.00	
	<hr/>	\$8,899.36
Balance unexpended,		545.48
		<hr/>
		\$9,444.84

## INCIDENTALS AND LAND DAMAGES.

Feb. 1, balance of appropriation 1875		
unexpended,	\$527.02	
Cash of county of Merrimack,	15.77	
Appropriation for 1876,	6,000.00	
Geo. A. Pillsbury, stone sold,	2.00	
Received for licenses,	115.00	
	<hr/>	\$6,659.79

## Paid as follows :

C. F. Stewart, cash paid out,	\$4.10
F. D. Batchelder,	6.75
B. W. Sanborn & Co., books for poor children,	31.36
Stanley & Ayer, care of clock, Board of Trade building,	54.00
Concord Carriage Co., repairs,	31.50
John H. Morse, repairs,	17.40
John Kimball, horse hire,	100.00
Union Steam Mill,	10.59
D. A. Hill, repairs,	23.00
Concord Railroad, freight,	6.60
E. B. Craddock,	7.00
Dr. Geo. W. Cook, return births and deaths,	2.00
S. H. Wade, " "	6.50
F. A. Stillings, " "	3.50
E. E. Graves, " "	1.50
M. W. Russell, " "	13.00
Drs. Gage & Conn, " "	12.50
Dr. S. H. Wade, " "	2.00
Charles H. Norton, damage for defect in highway,	15.00
D. E. Davis, " "	10.00

J. S. Ordway, damage for defect in highway,	\$5.00
F. H. Locke, “	200.00
William Winslow, “	10.00
Hawthorne & Greene, attorneys for Clarke & Cook, suits for damages,	150.00
D. L. Guernsey, books for poor children,	18.13
R. P. Sanborn, janitor,	51.35
Vogler Brothers, table for hose house,	4.50
Estate of W. H. Fisk, stationery,	1.40
Ranlet & Prescott, coal,	21.50
G. S. Locke & Co.,	41.25
J. S. Brown and others,	84.72
H. A. & C. E. Stewart,	20.00
City water-works, water,	10.00
Franklin Low, rent of Rumford Hall,	29.00
Geo. W. Abbott, rent of hall, ward 1,	20.00
H. H. Aldrich, furniture for offices,	128.75
D. Dudley & Co.,	3.00
John Kimball, for postage, &c.,	5.52
C. G. Pressy and others, referees, Frank Adams's claim for damages,	11.00
Vogler Brothers, chairs for office, City Hall,	21.25
Whitney & Mason, repairing sprinklers,	81.62
R. P. Staniels, rent for collector's office,	50.00
C. D. House, two Directories,	4.00
Enos Blake, land damage, 1875,	193.00
Sylvester Dana, “	20.00
Arthur Fletcher, “	5.00
D. S. Webster, making Badger street,	141.00
R. P. Staniels, insuring storehouse,	35.00
A. J. Holmes, stone watering-trough, West Concord,	70.00
Hammond & Ayers, sundries,	3.15
Concord Gas Light Co.,	161.60
Public Library, sundry bills,	64.50
Scott & Buswell, building fence, Beacon street, as per agreement with J. C. Pilsbury,	83.24
Estate James Rounsefell, painting signs,	6.00
Banfield & Forristall, fire-works 4th July,	425.00

A. W. Gale, expense putting up same,	\$5.00
Geo. A. Pillsbury, sundry bills 4th July celebration,	493.27
C. H. Amsden, 4th July bill,	4.50
Stevens & Duncklee, old bill for putting furnace into City Hall,	211.16
R. P. Sanborn, janitor,	54.32
Humphrey, Dodge & Co.,	1.15
Samuel Blood,	2.75
R. P. Staniels, balance rent collector's office,	13.88
Thornton & Farnum, stone watering- trough, south end Main street,	80.00
Connell & Savory,	9.43
George F. Whittredge, rent hall for Ward 7,	27.00
A. A. Moore, one half expense putting lightning rods City Hall building,	173.57
Concord Gas Light Co.,	40.80
J. W. Bliss, repairs,	2.65
Catherine Speed, gravel lot West Con- cord,	75.00
Humphrey, Dodge & Co.,	.83
W. C. Elkins,	2.60
J. H. Morse,	1.10
City water-works,	15.75
Robert Hall, expense hearing before committee legislature in regard to school district No. 23,	15.00
C. F. Stewart,	16.50
R. P. Sanborn, janitor,	83.55
Miller & Sanborn,	15.00
Albert Fellows, damage,	125.00
T. B. Tamblyn, water-trough,	15.00
S. W. Morrill, foundation for fountain State House yard,	200.00
R. P. Staniels, insurance,	30.00
Isaac N. Abbott, repairs hearse-house, Millville,	14.00
Geo. W. Abbott, rent of hall, Ward 1,	20.00
Lewis M. Brown, lettering guide-boards,	5.00
B. F. Gale, surveying roads and plans of same,	15.00

S. & S. C. Eastman,	\$63.75	
Andrew J. Holmes, stone posts for guide-board, bolts, &c.,	15.34	
A. & G. A. Foster, hacks &c., election day,	38.00	
George H. Gale, bill, 1875,	3.00	
Nahum Robinson, bill, 1875,	18.87	
Dr. E. E. Graves,	1.25	
G. S. Locke & Co.,	17.00	
Page & Norris, rent Mayor's office,	29.00	
E. B. Hutchinson,	2.00	
B. E. Badger,	79.36	
Concord Gas Light Co.,	53.40	
C. F. Stewart,	9.99	
R. P. Sanborn, janitor,	47.67	
Lyman Jackman, insurance,	15.00	
Gust Walker,	20.00	
Dr. G. P. Conn,	25.00	
D. L. Guernsey, for books,	6.85	
E. C. Eastman,	3.85	
C. H. Norton & Son,	40.00	
B. W. Sanborn, stationery, &c.,	22.40	
R. P. Sanborn, janitor,	23.75	
George W. Abbott, rent of hall,	10.00	
William P. Ford & Co., repairs,	5.70	
Eves & Munn,	12.96	
S. C. Eastman,	19.60	
J. L. Pickering,	12.00	
Daniel A. Hill,	7.00	
	<hr/>	\$4,909.33
Balance unexpended,		1,750.46
		<hr/>
		\$6,659.79

## ROADS AND BRIDGES.

Unexpended balance of appropriation, 1875,	\$262.00
Appropriation, 1876,	12,000.00
*Appropriation, extra, 1876,	8,000.00
Received of Asa Morrill, bridge timber sold,	30.00
Received of Geo. A. Pillsbury, water- ing streets,	561.50

\*This sum was appropriated for the purpose of putting catch basins on the line of sewers being laid in the precinct.

Received C. T. Huntoon, sidewalks,	\$230.48
Received Geo. A. Pillsbury, stone sold,	2.00
	<hr/> \$21,085.98

## Paid as follows :

Fuller & Pressy, stone,	\$6.20
John A. Lewis, lighting lower bridge,	26.00
C. & J. C. Gage, lumber &c.,	37.88
Charles C. Lund, engineering,	66.00
H. N. Farley & Co.,	4.75
Rufus Virgin, watering-trough,	3.00
Mrs. Mary Pecker, watering-trough,	3.00
J. E. Clifford, watering-trough,	3.00
William Tupper, lighting Free bridge,	22.00
R. K. Buswell, bill 1875,	13.35
George F. Sanborn,	64.30
C. C. Bean,	10.92
E. Hodgeman, stone,	8.00
M. W. Johnson, pay roll,	625.31
Porter E. Blanchard,	949.70
A. J. Holmes,	1,228.12
H. K. Farnum, bill 1875,	21.49
H. E. Perkins,	14.30
Thomas Dadmun,	7.50
A. J. Holmes,	150.00
H. H. Amsden & Son,	101.24
C. H. Norton, stone,	25.00
Bond & Carter,	250.25
City water-works,	30.00
Thompson Rowell & Co.,	752.55
Alvertus Evans, plank,	52.80
Carroll Hutchins, engineering,	29.88
Newell Sanborn,	5.00
M. H. Johnson, pay-roll,	357.00
Rebecca Blanchard, stone,	43.75
William Tupper,	30.00
Concord Railroad, freight,	33.25
Humphrey, Dodge & Co., hardware,	17.03
George W. Lake,	111.33
George F. Sanborn,	76.00
James Eastman, stone-work,	338.28
B. C. & M. Railroad, freight,	24.92
John Hanrahan,	1.00

John Genty,	\$29.10
D. S. Webster,	19.12
Samuel J. Shaw, stone-work, Fisherville,	189.50
Granite Railway Co.,	15.00
C. C. Bean, pay-roll,	334.30
Thornton, Farnum & Co.,	105.12
J. F. Cotton & Co., cement,	52.38
Ira Whiteher, lumber,	113.14
Woodworth, Dodge & Co., cement,	97.00
E. Hodgman,	3.50
Fuller & Pressy, stone,	65.25
Scott & Newman, repairs Horse Hill bridge,	181.60
Alvertus Evans, plank for Horse Hill bridge,	129.62
Daniel S. Webster,	200.20
Samuel J. Shaw, stone-work,	31.75
Robert Hall, work on roads,	96.25
Connell & Savory, painting iron bridge, East Concord,	122.38
John Whittaker, lumber,	7.09
A. C. Holt, railing on road to East Concord,	69.55
H. H. Amsden & Son, lumber,	59.22
Smith & Derry,	13.63
Elbridge Emery, posts for railing,	33.34
Pat. Finn, work paving,	13.00
J. P. Kempton, building culvert,	40.00
M. H. Johnson, pay-roll,	2,199.08
Evans & Gale,	19.38
Charles C. Lund, engineering,	21.50
Humphrey, Dodge & Co.,	62.85
A. J. Holmes, stone work,	206.90
Levi Roby, laying stone, &c.,	81.75
Geo. F. Sanborn,	17.95
City water-works,	30.00
Abial Smart, drawing stone,	23.30
Gust Walker, hardware,	67.52
Woodworth, Dodge & Co., cement,	315.40
H. W. Clapp,	3,185.00
C. M. & A. W. Rolfe, watering-trough,	3.00
E. G. Haynes, Akron pipe,	110.40
B. W. Sanborn, cement pipe,	18.90



Thompson & Stratton, powder,	\$70.21
Hiram Farnum,	24.75
Geo. Goodhue, Akron pipe,	54.32
D. S. Webster, drawing off stone,	101.00
Henry F. Campbell, building culvert,	10.00
M. H. Johnson, pay-roll,	847.61
Thomas Abbott,	12.00
W. K. Holt, lumber for bridge, Millville,	76.82
Thompson Rowell & Co.,	540.06
Dutton Wood, repairing Sewell Falls bridge,	219.05
Samuel Holt, brick,	1,040.85
L. D. Bunnell,	14.00
C. & J. C. Gage,	7.75
Geo. A. Pillsbury, sundry bills for con- crete sidewalks,	275.00
Nathan Chandler, grade,	13.36
Elbridge Emery, lumber,	5.60
Gust Walker,	14.97
George Frye,	51.90
E. Lamprey,	21.10
John D. Teel,	2.50
John H. Morse,	7.47
Woodworth, Dodge & Co.,	298.92
David O. Smith & Co.,	3.50
Zebulon Smith,	3.00
H. G. Belknap,	7.70
Abial Rolfe,	5.83
D. Arthur Brown & Co.,	12.03
Mrs. C. W. Sargent,	4.75
Gust Walker,	94.20
S. D. Trussell,	7.50
Daniel Farnum,	8.20
Gust Walker,	1.85
C. H. Norton & Son,	9.50
Woodworth, Dodge & Co.	1.20
A. & G. A. Foster,	14.00
B. G. Carter,	157.08
Stevens & Duncklee,	15.43
Jonathan M. Stewart,	7.00
Flanders, White & Houston,	2.75
City water-works,	200.00
J. Frank Hoit,	2.26

Frank Evans,	\$2.88	
Wm. B. Stearns,	3.80	
Wm. P. Ford & Co.,	13.71	
H. G. Belknap,	22.50	
Savage Bro's,	6.00	
Fisherville Precinct Committee,	38.82	
John Genty,	16.32	
T. Rowell & Co.,	765.72	
Concord Carriage Co.,	12.81	
John A. Lewis,	13.50	
3176 ft. 8-in. sewer pipe,	846.94	
672 " 12-in. " 50 cts.,	336.00	
84 " 12-in. " 50 "	42.00	
246 " 6-in. " 20 "	49.20	
125 " 10-in. " 40 "	50.00	
12 " 12-in. branches, \$1,	12.00	
2 6x8-in. branches,	1.06	
4 10-in. curves,	5.60	
Clough & Son, brick, East Concord,	28.40	
E. B. Hutchinson, patterns for catch-basins,	11.25	
Concord Railroad, freight on pipe from Manchester,	5.40	
	<hr/>	\$20,479.00
Balance unexpended,		606.68
		<hr/>
		\$21,085.98

## POLICE AND WATCH.

Appropriated, 1876,	\$3,900.00	
Received of S. Dana, police justice,	895.27	
	<hr/>	\$4,795.27
Paid as follows :		
S. Dana, salary,	\$600.00	
Ranlet & Prescott,	17.90	
S. W. Shattuck,	12.90	
Wm. T. Locke,	19.00	
John Connell, cash paid out,	224.36	
Rand & Jones, services one year,	1,600.06	
John Connell, salary as city marshal,	900.00	
Seth K. Jones, rent,	200.00	
Stevens & Duncklee, stoves, &c.,	43.88	
George W. Corey,	6.20	

H. F. Norris, clerk police court,	\$100.00	
Ranlet & Prescott, coal,	71.70	
John Chadwick, salary and expenses as assistant marshal,	447.94	
Concord Gas Light Co.,	75.80	
City water-works,	6.00	
Hall B. Rand,	14.00	
A. & G. A. Foster, horse hire,	56.50	
A. H. Wiggin,	4.25	
N. Bond,	8.00	
Humphrey, Dodge & Co.,	2.25	
Ranlet & Prescott, coal,	8.87	
Ranlet & Prescott, coal,	17.90	
James H. Davis,	15.00	
J. L. Pickering,	4.00	
Ordway & Ferrin,	5.50	
Concord Gas Light Co.,	28.20	
John H. Morse,	9.87	
Stevens & Duncklee,	1.50	
R. P. Stanfels, clerk police court,	86.10	
A. & G. A. Foster, horse hire,	59.75	
Flanders, White & Houston,	.75	
	<hr/>	\$4,648.18
Balance unexpended,		147.09
		<hr/>
		\$4,795.27

## COMMITTEE SERVICE.

Appropriation, 1876,	\$900.00
Paid as follows :	
J. B. Curtis,	\$50.00
A. C. Holt,	78.00
Geo. A. Cummings,	50.00
Chas. H. Amsden (two years cash paid out),	50.00
James L. Mason,	50.00
Isaac N. Abbott,	50.00
Andrew J. Holmes,	50.00
Rufus Cass,	30.00
Andrew P. Bennett,	30.00
Zebina C. Perkins,	30.00
Elbridge Emery,	30.00

Lyman Sawyer,	\$30.00	
Charles H. Merrill,	30.00	
Charles W. Moore,	30.00	
George H. Hill,	30.00	
Moses B. Critchett,	30.00	
Geo. A. Foster,	30.00	
Alonzo Downing,	30.00	
Calvin C. Webster,	30.00	
William Stevenson,	30.00	
Henry Churchill,	30.00	
	<hr/>	\$798.00
Balance unexpended,		102.00
		<hr/>
		\$900.00

## SCHOOLS.

Appropriation, 1876,	\$18,500.00	
“ Union district, addi-		
tional,	8,966.00	
“ Dist. No. 3, additional,	175.00	
“ dog tax,	800.00	
“ literary fund,	1,132.20	
“ interest on A. Walker		
legacy,	60.00	
	<hr/>	\$29,633.20

## Paid as follows :

John M. Bean, Committee, Dist. No. 1,	\$195.32
Joseph Knowles, “ “ 2,	170.32
Harrison Partridge, “ “ 3,	485.00
Timothy Carter, “ “ 4,	133.32
Jacob N. Flanders, “ “ 5,	119.32
John Jordan, “ “ 6,	128.32
John E. Baker, “ “ 7,	125.00
John Hargate, “ “ 8,	185.32
P. B. Cogswell, Union Dist., 24,	150.96
Samuel E. Clifford, “ Dist. No. 12,	527.00
Hugh Tallant, “ “ 13,	188.00
John Buckland, “ “ 14,	134.32
Charles D. Rowell, “ “ 15,	120.32
Chas. E. Thompson, “ “ 16,	78.40
Giles Wheeler, “ “ 18,	281.32
George P. Meservey, “ “ 20,	1,554.32
George G. Jenness, “ “ 22,	181.32

F. W. Colby, Committee, Dist. No. 23,	\$94.45	
Andrew S. Smith, " " 24,	65.16	
	<hr/>	\$28,917.49
Balance unexpended,		715.71
		<hr/>
		\$29,633.20

## SALARIES.

Balance of appropriation, 1875,	\$187.50	
Appropriation, 1876,	5,500.00	
	<hr/>	\$5,687.50
Paid as follows :		
Charles P. Sanborn, solicitor, 1875,	\$100.00	
George A. Pillsbury, assessor, 1875,	195.00	
Charles H. Norton, " "	186.00	
Nathan Chandler, " "	186.00	
William H. Allison, copying for assessors, 1875,	60.00	
L. L. Mower, clerk of common council,	50.00	
H. J. Crippen, for Board of Education, Union District,	225.00	
Abiel Rolfe, S. S. Committee,	76.66	
Rev. A. Burnham, " "	56.67	
L. T. Flint, " "	56.67	
Abiel Rolfe, for District No. 20,	27.00	
C. F. Stewart, overseer of poor,	125.00	
" salary city clerk,	800.00	
S. C. Eastman, city treasurer, 1875,	400.00	
John Kimball, Mayor, balance salary, 1875,	250.00	
John Kimball, supt. roads and bridges,	300.00	
Wm. H. Allison, collector of taxes,	450.00	
Harrison Partridge, S. S. Committee, District 3,	18.00	
Cyrus Runnells, assessor Ward 1,	87.00	
John B. Sanborn, " " 2,	90.00	
Timothy Carter, " " 3,	54.00	
Charles Woodman, " " 4,	99.00	
Curtis White, " " 5,	195.00	
George S. Dennett, " " 6,	177.00	
Andrew S. Smith, " " 7,	96.00	
Geo. N. Dutton, ward clerk,	5.00	
John E. Frye, " "	5.00	

Walter L. Lougee, ward clerk,		\$5.00
A. L. Marden, "		5.00
Geo. W. Underhill, "		5.00
David A. Macurdy, "		5.00
Geo. B. Whittredge, "		5.00
Hazen Knowlton, selectman, Ward 1,		5.00
E. F. Sweat, "	1,	5.00
D. Warren Fox, "	1,	5.00
A. H. C. Knowles, "	2,	5.00
N. P. Richardson, "	2,	5.00
E. R. Noyse, "	2,	5.00
Abijah Hollis, "	3,	5.00
Ira C. Phillips, "	3,	5.00
Charles L. Rowe, "	3,	5.00
Charles H. Jones, "	4,	5.00
N. H. Shattuck, "	4,	5.00
Wm. H. Kenney, "	4,	5.00
Aram B. Smith, "	5,	5.00
Henry A. Mann, "	5,	5.00
George S. Locke, "	5,	5.00
George O. Dickerman, "	6,	5.00
David L. Neal, "	6,	5.00
Charles E. Cummings, "	6,	5.00
Samuel B. Upton, "	7,	5.00
Wm. W. Critchett, "	7,	5.00
Jacob E. Hutchins, "	7,	5.00
Henry A. Mann, 1875, "	5,	5.00
Chas. T. Huntoon, collector,		600.00
		<hr/>
		\$5,105.00
Balance unexpended,		582.50
		<hr/>
		\$5,687.50

## PROFESSIONAL SERVICES.

Appropriation, 1876,	\$400.00	
Unexpended balance, 1875,	285.00	
	<hr/>	\$685.00
Paid as follows:		
Sanborn & Clark,	\$200.00	
John Y. Mugridge,	15.00	
	<hr/>	\$215.00
Balance unexpended,		470.00
		<hr/>
		\$685.00



## DOG TAX.

Paid Albert Stevens, 1875,	\$80.00	
John G. Tallant, 1876,	4.00	
Sylvester G. Hoit,	5.00	
	<hr/>	\$89.00

## PRINTING AND STATIONERY.

Appropriation, 1876,	\$800.00	
“ overdrawn,	259.57	
	<hr/>	\$1,059.57

Paid :

Edson C. Eastman,	\$9.00	
D. L. Guernsey,	1.50	
C. C. Pearson & Co.,	66.00	
Republican Press Association,	677.65	
Woodbury & Batchelder,	47.25	
E. C. Bailey,	59.75	
Morrill & Silsby,	188.32	
B. W. Sanborn & Co.,	10.10	
	<hr/>	\$1,059.57

## PUBLIC LIBRARY.

Appropriation, 1876,	\$1,000.00	
“ overdrawn,	331.67	
	<hr/>	\$1,331.67

Paid :

F. S. Crawford, librarian,	\$1,000.00	
Isaac A. Hill, rent,	250.00	
Stevens & Duncklee, repairs,	14.37	
John H. Morse, repairs,	21.45	
Connell & Savory, painting,	45.85	
	<hr/>	\$1,331.67

## CEMETERIES—OLD AND BLOSSOM HILL.

## RECEIPTS.

Received of J. W. Leighton and Geo. L. Gibson,	\$45.00
George Prescott,	30.00
Geo. W. Craig and C. W. Harrington,	45.00

A. M. Holt and G. N. Greeley,	\$45.00
V. Atkins,	21.60
Heirs of J. D. Kelley,	45.00
Frank T. Bean,	30.00
Moses B. Page,	45.00
Charles H. Herbert,	21.60
Henry O. Glidden,	27.00
George Myhofer,	10.50
Hiram B. Tebbetts,	123.00
David Fowler,	46.00
Charles A. Dole,	45.00
John S. Blanchard,	88.00
Freeman Webster,	95.00
L. A. Smith,	90.00
George F. Whittredge,	91.00
Joshua B. Merrill,	21.60
Clara E. Palmer,	3.00
William B. Durgin,	81.00
Olive B. Pitman,	93.00
Lyman R. Fellows,	103.00
John H. Albin,	90.00
William P. Ford,	90.50
Dexter Fitts,	54.00
Zelotes Stevens,	30.00
John S. Thompson,	56.25
Mary Woodmaney,	10.50
N. B. Marston,	32.40
William H. Allison,	90.00
George W. Lawrence,	111.50
Frank Coffin,	69.70
E. H. Woodman,	67.50
Calvin Thorn & Son,	81.00
Charles Woodman,	251.77
	<hr/>
	\$2,280.42

## EXPENDITURES.

Charles C. Lund, engineer,	\$105.74
John McClintock, “	145.25
Carroll Hutchins, “	6.76
Gust Walker, hardware,	16.85
Humphrey, Dodge & Co., hardware,	10.60
Union steam mills,	13.75

Charles Woodman and others, labor,	\$1,916.45	
	<hr/>	\$2,215.40
Balance of receipts over expenditures,		65.02
		<hr/>
		\$2,280.42

## CITY FARM.

Appropriation, 1875, unexpended,	\$1,039.51	
Received of Harrison Partridge,	18.65	
county of Merrimack,	471.32	
for land sold,	100.00	
of Crowley & Quinn, stone		
quarries,	71.89	
	<hr/>	\$1,701.37
Deficiency,		920.05
		<hr/>
		\$2,621.42

Paid as follows :

* L. L. Farwell, schedule bills, 1875,	1,361.74	
* L. L. Farwell, balance salary, 1875,	560.78	
J. L. T. Brown, for horse,	185.00	
Stephen Sewell,       “	200.00	
L. L. Farwell, on account,	200.00	
Daniel Wyman, for cows,	114.00	
	<hr/>	\$2,621.42

## CENTRAL FIRE STATION.

Balance of appropriation, 1875, unexpended,	\$3,913.88	
Amount expended more than appropriated,	65.40	
	<hr/>	\$3,979.28

Paid as follows :

Hutchins & Co., bill,	\$161.95	
John Kimball, building committee,	350.00	
James L. Mason,       “	100.00	
Henry Churchill,       “	50.00	
H. H. Amsden & Son, furniture,	60.00	
Stevens & Duncklee, fixtures,	237.14	

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\*These bills, amounting to \$1,922.52, have been paid on account of deficiency for 1875. See report of Committee on City Farm last year.

D. C. Allen & Co.,	\$12.70
Union Steam Mills, three bills,	200.70
Ordway & Ferrin,	127.97
Mead & Mason, two bills,	962.57
George Goodhue,	32.90
John H. Flood, stone work,	360.40
Hammond & Ayers, fixtures,	72.00
Geo. E. Minot, painting,	30.80
M. H. Johnson, pay-roll,	145.50
Charles E. Parker, architect (balance),	130.70
Lowell Eastman, glass,	17.41
Humphrey, Dodge & Co., hardware,	9.66
Gust Walker, hardware,	51.22
Northern Railroad, freight,	12.00
Thompson, Rowell & Co., concreting,	570.50
C. H. Martin & Co., paints and oils,	79.32
Vogler Brothers, furniture,	36.90
D. C. Allen & Co.,	2.45
Andrew Bunker, doors, &c.,	79.90
Samuel Holt, brick,	10.80
H. H. Aldrich, furniture,	22.00
Concord Railroad, freight,	5.88
Stevens & Duncklee, fixtures,	45.41
	<hr/>
	\$3,979.28

# REPORT

## OF THE

### SUPERINTENDENT OF REPAIRS OF HIGHWAYS AND BRIDGES.

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*To the City Council:*

The undersigned, superintendent of repairs of highways and bridges, herewith respectfully presents a statement of receipts and expenditures in each highway district within the city, from February 1, 1876, to February 1, 1877—districts Nos. 9, 26, 27, 28, and 29 being one district, under the immediate supervision of the superintendent. The appropriation made for this purpose in April last was ten thousand dollars. It was found that quite a sum had been expended in the months of February and March, 1876, in breaking roads caused by drifting snows; also, the months of December, 1876, and January, 1877, being unusually severe, more so than for many years past, it was found that quite a large sum had been necessary to keep the roads and streets in a suitable condition for public use. To provide for these expenditures, the city council, at their regular meeting in January last, appropriated the sum of \$2,878.06 for highway districts Nos. 9, 26, 27, 28, and 29, and the sum of \$2,121.94, to be divided among the remaining districts.

GEO. A. PILLSBURY, *Sup't.*

GEO. A. PILLSBURY, SUPT. DISTRICTS NUMBERS  
9, 26, 27, 28, AND 29.

Dr.	
To appropriation, 1876,	\$7,200.00
“ additional, Jan., 1877,	2,878.06
amount transferred from city pauper acc't,	2,000.00
amount overdrawn,	336.05
	\$12,414.11

CR.

By amount expended from Feb. 1, 1876, to Feb. 1, 1877, as follows:

M. H. Johnson's men, as per pay-roll,	
"                    "            Feb.,	\$411.22
"                    "            March,	488.00
"                    "            April,	721.75
"                    "            May,	554.49
"                    "            June,	1,203.48
"                    "            July,	942.37
"                    "            August,	1,749.84
"                    "            Sept.,	2,107.63
"                    "            Nov.,	915.87
"                    "            Dec.,	916.86
"                    "            Jan.,	996.09
K. J. Goodhue, teamster,	600.00
A. P. Noyes,	2.60
S. D. Trussell, blacksmithing,	58 05
Jona. George, breaking roads,	70.80
E. O. Murphy, repairing harnesses,	15.35
M. H. Johnson, cash paid out,	15.92
Woodworth, Dodge & Co., grain &c.,	245.45
Underhill & Kittredge,	5.20
Northern Railroad, freight,	7.05
Bond & Carter, flagging stone,	113.75
Gust Walker, hardware,	91.59
Humphrey, Dodge & Co., hardware,	149.85
J. H. Lamprey, carrots,	14.70
D. W. Long,	5.45
Flanders, White & Houston,	10.75
	<hr/> \$12,414.11

## HIGHWAY DISTRICT REPORTS.

Appropriation, 1876,	\$2,800.00
Balance of appropriation, 1875, unexpended,	246.06
Additional appropriation, Jan., 1877, for breaking roads in the months of February, March, and December, 1876, and Jan., 1877,	2,121.94
	<hr/> \$5,168.00

## DISTRICT NO. 1.

AARON Q. FARNUM, <i>Surveyor</i> , 1875.	
"                    "            1876.	Dr.
To appropriation, 1876,	\$100.00
additional appropriation, Jan., 1877,	64.22
	<hr/> \$164.22

Cr.		
Paid A. Q. Farnum, bill for breaking roads 1875 and 1876,	\$25.97	
A. Q. Farnum, bill for breaking roads 1876 and 1877,	38.25	
George F. Robinson, labor,	4.37	
Joseph Emery, "	12.00	
James Larhie, "	3.50	
Alexander S. Yeaton, "	4 37	
Charles H. Daniels, "	3.50	
Moody S. Farnum, "	7.00	
A. Q. Farnum, "	65.26	
	<hr/>	\$164.22

## DISTRICT NO. 2.

WM. S. CARTER, <i>Surveyor</i> , 1875.		
" " 1876.	Dr.	
To appropriation, 1876,	\$70.00	
additional appropriation, Jan., 1877,	.57	
Cash in hands of surveyor, last year,	13.68	
	<hr/>	\$84.25
Cr.		
By bill rendered for summer bill,	\$43.60	
" " winter 1876-7,	40.65	
	<hr/>	\$84.25

## DISTRICT NO. 3.

JOHN BUCKLAND, <i>Surveyor</i> , 1875.		
" " 1876.	Dr.	
To appropriation, 1876,	\$70.00	
extra appropriation, Jan., 1877,	74.17	
	<hr/>	\$144.17
Cr.		
By bill breaking roads winter 1875 and 1876,	\$7.44	
" " 1876 and 1877,	44.62	
By cash paid J. Buckland, labor,	32.62	
R. Virgin, "	21.43	
D. Sargent, "	3.50	
A. Sargent, "	3.50	
H. Ballou, "	1.75	
J. Bartlett, "	1.75	
C. Abbott, "	1.75	
Lyman Hall, "	5.69	
C. Buckland, "	16.62	
C. Farnum, plank,	3.50	
	<hr/>	\$144.17



## DISTRICT NO. 4.

HENRY H. POTTER, <i>Surveyor</i> , 1875.		
“ “ 1876.	DR.	
Appropriation, 1876,	\$85.00	
Additional appropriation, Jan., 1877,	37.75	
	<hr/>	\$122.75
CR.		
By bill breaking roads 1875 and 1876,	\$7.00	
“ “ 1876 and 1877,	27.75	
By paid John P. Locke, labor,	4.00	
F. Knowles, “	3.00	
Thomas Sears, “	8.75	
T. Tenney, “	5.25	
John Potter, “	12.00	
Charles Rowell, “	10.50	
Martin Rowell, “	3.50	
J. F. Potter, “	7.00	
W. L. Bachelder, “	7.00	
H. H. Potter, “	27.00	
	<hr/>	\$122.75

## DISTRICT NO. 5.

JOHN G. TALLANT, <i>Surveyor</i> , 1875.		
DAVID A. MORRILL, “ 1876.	DR.	
To appropriation, 1876,	\$80.00	
extra appropriation, Jan., 1877,	29.74	
	<hr/>	\$109.74
CR.		
By winter bill 1875 and 1876,	\$29.74	
cash paid John G. Tallant, laborer,	12.00	
Hugh Tallant, “	22.50	
Richard Wells, “	4.50	
David A. Morrill, “	41.00	
	<hr/>	\$109.74

## DISTRICT NO. 6.

JOSEPH E. PLUMMER, <i>Surveyor</i> , 1875.		
GEO. W. LAKE, “ 1876.	DR.	
To appropriation, 1876,	\$300.00	
extra appropriation, Jan., 1877,	60.22	
cash in hands of J. E. Plummer,	26.10	
	<hr/>	\$386.32
CR.		
By amount winter bill 1875 and 1876,	\$26.10	
“ “ 1876 and 1877,	87.15	

By cash paid	T. Smith, labor,	\$18.00	
	Elbridge Emery, labor,	62.80	
	“                  lumber,	8.20	
	R. Brown, labor,	12.37	
	C. Dudley, “	3.00	
	E. R. Noyes, “	12.00	
	D. Sanborn, “	8.00	
	W. Welch, “	7.50	
	A. H. Moores, “	13.05	
	Thomas Young, “	4.50	
	W. George, “	3.00	
	D. Shaw, “	8.00	
	O. W. Coon, “	12.00	
	Geo. Virgin, “	9.00	
	Jona. Kimball, “	3 50	
	W. Virgin, “	1.00	
	Geo. W. Lake, “	87.15	
		<hr/>	\$386.32

## DISTRICT NO. 7.

JOSIAH S. LOCKE, <i>Surveyor</i> , 1875,			
“                  “                  1876,	Dr.		
To balance unexpended, 1875,	\$29.03		
appropriation, 1876,	30.00		
extra appropriation, Jan., 1877,	17.07		
	<hr/>		\$76.10
Cr.			
By cash paid Samuel M. Locke,	\$24.10		
“          Benja. L. Larkin,	7.50		
“          Josiah S. Locke,	26.50		
winter bill, 1876 and 1877,	18.00		
	<hr/>		\$76.10

## DISTRICT NO. 8.

WILLIAM T. LOCKE, <i>Surveyor</i> , 1875,			
DAVID CAMPBELL, <i>Surveyor</i> , 1876.	Dr.		
To appropriation, 1876,	\$100.00		
extra appropriation, Jan. 1877,	20.71		
	<hr/>		\$120.71
Cr.			
By winter bill, W. T. Locke, 1875 and 1876,	\$49.75		
bill labor, David Campbell,	70.96		
	<hr/>		\$120.71

## DISTRICT NO 10.

HIRAM FARNUM, <i>Surveyor</i> , 1875.		
H. H. FARNUM, <i>Surveyor</i> , 1876.		DR.
To appropriation, 1876,	\$230.00	
extra appropriation, Jan., 1877,	115.50	
	<hr/>	\$345.50
CR.		
By winter bill 1875 and 1876, Hiram Farnum,	\$59.00	
“ 1876 and 1877, H. Harvey Farnum,	56.65	
By cash paid Benjamin Merrill, labor,	1.50	
D. B. Webber, “	1.25	
Thomas Welch, “	3.00	
L. L. Farwell, “	10.00	
Isaac H. Farnum, “	10.12	
A. R. Farnum, “	5.62	
William Putnam, “	3.75	
B. Donahue, “	3.75	
Peabody Morse, “	14.25	
A. Putney, “	3.00	
Leonard Speed, “	4.87	
Patrick Daly, “	10.87	
Walter S. Lougee, “	22.50	
George Speed, “	24.56	
H. Harvey Farnum, “	110.81	
	<hr/>	\$345.00

## DISTRICT NO. 11.

JONATHAN M. STEWART, <i>Surveyor</i> , 1875.		
“ “ 1876.	DR.	
To appropriation, 1876,	\$40.00	
extra appropriation, Jan., 1877,	68.06	
	<hr/>	\$108.06
CR.		
By winter bill 1875 and 1866,	\$21.81	
“ 1876 and 1877,	37.00	
cash paid A. C. Abbott, labor,	3.25	
“ Jona. M. Stewart, labor,	46.00	
	<hr/>	\$108.06

## DISTRICT NO. 12.

CHARLES C. BEAN, <i>Surveyor</i> , 1875.		
“ “ 1876.	DR.	
To appropriation, 1876,	\$450.00	
extra appropriation, Jan., 1877,	434.88	
	<hr/>	\$884.88

Cr.

By cash paid C. C. Bean, winter bill 1875-6,	\$107.56	
"    "    1876-7,	189.83	
"    labor and team,	213.60	
Emery Hoit, labor,	20.55	
Michael Griffin, labor,	63.50	
Jeremiah Boyce, team,	33.25	
John Roberts, labor,	63.00	
George B. Badger, labor,	8.25	
Daniel Spencer, " "	9.75	
Charles Hardy, " "	.50	
Albert Danforth, " "	.60	
James Shea, " "	64.95	
John B. Foley, " "	3.00	
George Vincia, " "	10.35	
Patrick Gahagan, " "	5.55	
Hiram Currier, " "	5.00	
M. H. Bean & Co., " "	10.18	
Nelson Davis, " "	4.50	
Carlos Roby, " "	5.00	
George Meserve, " "	2.50	
J. C. Pearson, supplies,	1.60	
Northern Railroad, freight,	.56	
Warren Johnson, labor,	6.50	
Frank Emerson, " "	11.25	
George Bean, " "	9.00	
N. Colby, " "	1.25	
C. & J. C. Gage, lumber,	1.00	
J. P. Durgin, labor,	3.30	
Asa H. Morrill, labor,	.60	
W. Blanchard,	16.16	
H. H. Amsden & Son,	12.24	
	<hr/>	\$884.88

## DISTRICT NO. 13.

GEORGE F. SANBORN, *Surveyor*, 1875.

" " 1876.

Dr.

To appropriation, 1876,	\$80.00	
extra appropriation, Jan., 1877,	210.65	
	<hr/>	\$290.65

Cr.

By cash paid winter bill 1876 and 1877,	\$83.18	
J. S. Fiske, labor,	9.88	
Jeremiah Sanborn, labor,	1.25	
L. B. Elliott, " "	2.30	
Samuel Floyd, " "	.75	

By cash paid Frank L. Elliott, labor,	\$11.05	
Timothy E. Hoit, "	9 75	
William F. Emery, "	11.40	
George Blanchard, "	12.15	
Luther Knowles, "	8.70	
Alfred Uran, "	11.08	
Fred. Connor, "	13.40	
J. D. Fife, "	1.05	
Arthur Connor, "	.38	
John F. Abbott, "	4.80	
T. Carter, "	3.75	
Joseph Elliott, "	7.75	
A. Hough, "	.75	
Amos Elliott, "	3.75	
H. Gage, "	.75	
Wm. Hutchinson, "	3.50	
John Hoit, "	.50	
Arthur Connor, "	1.00	
W. W. Whittier, "	1.05	
Granite stone quarry, stone,	5.00	
for chestnut posts,	1.00	
for use of plough,	4.00	
for powder and drills,	.50	
Geo. F. Sanborn, self and team,	76.23	
	<hr/>	\$290.65

## DISTRICT NO. 14.

SHERMAN D. COLBY, <i>Surveyor</i> , 1876.		
" " 1876.	Dr.	
To appropriation, 1876,	\$60.00	
additional appropriation, Jan., 1877,	102.48	
	<hr/>	\$162.48
Cr.		
By cash paid winter bill 1875 and 1876,	\$20.67	
" 1876 and 1877,	79.80	
Hiram Eastman, labor,	5.00	
Gilman J. Colby, "	5.00	
S. D. Colby, "	48.01	
for timber,	4.00	
	<hr/>	\$162.48

## DISTRICT NO. 15.

MOSES E. LONG, <i>Surveyor</i> , 1875.		
" " 1876.	Dr.	
To appropriation, 1876,	\$70.00	
additional appropriation, Jan., 1877,	29.45	
	<hr/>	\$99.45

Cr.

By cash paid winter bill 1875 and 1876,	\$22.88	
"    1876 and 1877,	19.95	
Moses E. Long, labor,	30.22	
Gilman Gomo,	15.90	
D. Perkins,	.75	
John Perkins,	3.00	
Charles Sweat,	4.50	
A. Hammond,	2.25	
	<hr/>	\$99.45

## DISTRICT NO. 16.

ROBERT B. HOIT, *Surveyor*, 1875.  
 " " 1876.

Dr.

To appropriation, 1876,	\$65.00	
additional appropriation, 1877,	31.23	
	<hr/>	\$96.23

Cr.

By cash paid winter bill 1876 and 1877,	\$50.68	
Robert B. Hoit, labor,	14.40	
Edward Runnells, "	4.75	
W. E. Runnells, "	3.75	
Edwin Sawyer, "	3.00	
L. W. Powell, "	3.75	
H. J. Powell, "	2.25	
Edwin Terry, "	7.50	
Albert G. Dow, "	6.15	
	<hr/>	\$96.23

## DISTRICT NO. 17.

GILMAN H. DIAMOND, *Surveyor*, 1875.  
 " " 1876.

Dr.

To appropriation, 1876,	\$60.00	
additional appropriation, Jan., 1877,	109.15	
	<hr/>	\$169.15

Cr.

By amount of winter bill 1875 and 1876,	\$22.75	
"    "    1876 and 1877,	84.00	
By cash paid G. H. Diamond, labor,	27.75	
Chas. H. Carrier, "	4.50	
Joel Connor, "	3.75	
James S. Connor, "	5.25	
Simeon J. Crane, "	5.25	
A. C. Carter, "	13.50	
John Whittaker, lumber,	2.40	
	<hr/>	\$169.15

## DISTRICT NO. 18.

ANDREW S. FARNUM, <i>Surveyor</i> , 1875.		
“ “ 1876.	Dr.	
To appropriation, 1876,	\$90.00	
additional appropriation, Jan., 1877,	42.38	
	<hr/>	\$132.38
Cr.		
By cash paid winter bill 1876 and 1877,	\$27.50	
Isaac F. Ferrin, labor,	24.75	
Henry Farnum, “	8.59	
Richard S. Emery, “	20.75	
Samuel E. Califf, “	3.00	
Hazen K. Fiske, “	3.00	
Edward S. Barrett, “	2.25	
Benj. T. Putney, “	2.25	
H. H. Farnum, “	1.50	
Lyman Sawyer, “	.75	
Andrew S. Farnum, “	37.04	
Crowley & Quinn, stone,	1.00	
	<hr/>	\$132.38

## DISTRICT NO. 19.

REUBEN K. ABBOTT, <i>Surveyor</i> , 1875.		
“ “ 1876.	Dr.	
Cr.		
By appropriation, 1876,	\$100.00	
additional appropriation, Jan., 1877,	91.00	
	<hr/>	\$191.00
Cr.		
By cash paid winter bill 1875 and 1876,	\$17.20	
“ 1876 and 1877,	73.80	
R. K. Abbott, labor,	29.86	
John K. Abbott, “	11 25	
D. C. Tenney, “	7.88	
Albert Saltmarsh, “	14.25	
A. D. Swan, “	7.13	
C. H. Merrill, “	14.25	
J. E. Saltmarsh, “	15.38	
	<hr/>	\$191.00

## DISTRICT NO. 20.

JACOB N. FLANDERS, <i>Surveyor</i> , 1875.		
“ “ 1876.	Dr.	
To appropriation, 1876,	\$60.00	
additional appropriation, Jan., 1877,	41.09	
	<hr/>	\$101.09



Cr.		
By cash paid winter bill 1875 and 1876,	\$3.32	
"    1876 and 1877,	26.70	
Jacob N. Flanders, labor,	15.75	
Frank W. Thompson, "	5.25	
Wm. B. Thompson, "	4.50	
John E. Saltmarsh, "	9.75	
Wm. Fagan, "	6 00	
Peter Fagan, "	6.75	
Abner Jones, "	5.25	
Charles H. Merrill, "	8.70	
F. J. Emerson, "	7.12	
Charles B. Merrill, "	2.00	
	<hr/>	\$101.09

## DISTRICT NO. 21.

LOWELL BROWN, <i>Surveyor</i> , 1875.		
DANIEL FARNUM, " 1876.	Dr.	
To appropriation, 1876,		\$80.00
Cr.		
By cash paid Lowell Brown, winter bill,	\$9.40	
Daniel Farnum, "	8.75	
Daniel Farnum, summer bill,	9.50	
Balance unexpended,	52.35	
	<hr/>	\$80.00

## DISTRICT NO. 22.

CHARLES HALL, <i>Surveyor</i> , 1875.		
"    "    1876.	Dr.	
To appropriation, 1876,	\$75.00	
additional appropriation, Jan., 1877,	15.00	
	<hr/>	\$90.00
Cr.		
By cash paid Benja. Horn, winter bill,	\$3.00	
Charles Hall, "	5.00	
for plank,	10.50	
Charles Hall, labor,	71.50	
	<hr/>	\$90.00

## DISTRICT NO. 23.

JEREMIAH S. ABBOTT, <i>Surveyor</i> , 1875.		
"    "    1876.	Dr.	
To balance in hands of J. S. Abbott, 1870,	\$94.55	
appropriation, 1876,	125.00	
additional appropriation, Jan., 1877,	95.66	
	<hr/>	\$315.21
Cr.		
By cash paid J. S. Abbott, winter bill 1875-6,	\$94.55	
F. S. Corliss, "	5.25	

By cash paid J. S. Abbott, winter bill 1876-7,	\$142.39	
"    labor,	7.00	
"    plank,	4.00	
Fred Drew, labor,	4.37	
Charles Drew, labor,	2.17	
Stephen Currier, labor,	5.25	
John E. Proctor, " "	6.12	
J. H. Proctor, " "	7.00	
Frank G. Proctor, " "	4.37	
John Corliss, " "	6.12	
John Bodwell, " "	2.62	
Frank E. Abbott, " "	1.75	
John E. Baker, " "	12.25	
Daniel Farnum, stone,	10.00	
	<hr/>	\$315.21

## DISTRICT NO. 24.

JESSE H. GOODWIN, <i>Surveyor</i> , 1875.		
ANDREW S. SMITH, " 1876.	Dr.	
To cash in hands of Jesse H. Goodwin, 1875,	\$1.96	
appropriation, 1876,	45.00	
additional appropriation, Jan., 1877,	15.64	
	<hr/>	\$62.60

Cr.

By cash paid winter bill, J. H. Goodwin,		
1875-6,	\$7.62	
Andrew S. Smith, labor,	33.70	
Wm. R. Smart, " "	3.50	
Jesse H. Goodwin, " "	3.90	
Joseph E. Brown, " "	13.88	
	<hr/>	\$62.60

## DISTRICT NO. 25.

MOSES B. ABBOTT, <i>Surveyor</i> , 1875.		
FREDERICK CLOUGH, " 1876.	Dr.	
To appropriation, 1876,	\$100.00	
additional appropriation, Jan., 1877,	119.50	
	<hr/>	\$219.50

Cr.

By cash paid John C. Wheeler, winter bill		
1875-6,	30.79	
Frederick Clough, winter bill		
1876-7,	\$104.84	
Fred Clough, labor,	25.50	
B. A. Blood, " "	11.75	
J. C. Wheeler, " "	9.62	
Isaac Wheeler, " "	8.75	

By cash paid	Henry Ordway, labor,	\$8.75	
	W. S. Bachelder, labor,	3.00	
	Giles Wheeler, labor,	.50	
	for lumber,	16.00	
		<hr/>	\$219.50

## DISTRICT NO. 30.

FRANK B. CARTER, <i>Surveyor</i> , 1875.			
“ “ 1876.	Dr.		
To appropriation, 1876,	\$60.00		
additional appropriation, Jan., 1877,	170.22		
	<hr/>		\$230.22

## Cr.

By cash paid winter bill 1875-6,	\$40.85		
“ 1876-7,	71.62		
F. B. Carter, labor,	28.50		
Charles H. Currier, labor,	9.00		
John J. Thompson, “	3.00		
Edwin Terry, “	6.00		
Elbridge Diamond, “	6.75		
William Broad, “	9.00		
David Carter, “	25.50		
Timothy Carter, “	30.00		
	<hr/>		\$230.22

## DISTRICT NO. 31.

ROBERT K. LOUGEE, <i>Surveyor</i> , 1875.			
“ “ 1876.	Dr.		
To amount in hands of surveyor, 1875,	\$16.49		
appropriation, 1876,	20.00		
additional appropriation, Jan., 1877,	55.60		
	<hr/>		\$92.09

## Cr.

By cash paid winter bill 1875-6,	\$17.25		
Robert K. Lougee, labor,	45.16		
D. S. Webster, plank,	7.48		
for plank,	2.80		
for spikes,	2.15		
Samuel E. Clifford, plank,	1 75		
for drawing rails,	2.50		
for timber,	13.00		
	<hr/>		\$92.09

## DISTRICT NO. 32.

JOHN T. GILMAN, <i>Surveyor</i> , 1875.			
“ “ 1876.	Dr.		
To balance in hands of surveyor, 1875,	\$14.25		
appropriation, 1876,	45.00		
	<hr/>		\$59.25

CR.		
By cash paid for winter bill 1875 and 1876,	\$8.75	
John T. Gilman, labor,	28.00	
L. K. Hinds,                    "	12.37	
Unexpended,	10.13	
	<hr/>	\$59.25

## DISTRICT NO. 33.

ROBERT H. POTTER, <i>Surveyor</i> , 1875.		
HENRY H. BEAN,                    "                    1876.	DR.	
To appropriation, 1876,	\$60.00	
additional appropriation, Jan., 1877,	27.93	
	<hr/>	\$87.93

CR.		
By cash paid winter bill 1875 and 1876,	\$8.77	
Henry H. Bean, winter bill		
1876 and 1877,	29.78	
Henry H. Bean, labor,	35.37	
F. Doplac,                    "	3.50	
A. Atwood,                   "	1.75	
S. Dustin,                   "	2.63	
T. Bean,                   "	2.63	
C. F. Bailey,                   "	3.50	
	<hr/>	\$87.93

## DISTRICT NO. 34.

CHARLES GRAHAM, <i>Surveyor</i> , 1875.		
JOHN W. BOURLET,                   "                    1876.	DR.	
To cash in hands of surveyor, 1875,	\$50.00	
appropriation, 1876,	50.00	
additional appropriation, Jan., 1877,	42.07	
	<hr/>	\$142.07

CR.		
By cash paid Chas. Graham, winter bill		
1875 and 1876,	\$12.38	
By cash paid Chas. Graham, summer bill		
1875,	37.62	
By cash paid John W. Bourlet, winter bill		
1876 and 1877,	44.55	
By cash paid John W. Bourlet, labor,	22.50	
Andrew Moody,                   "	7.00	
Charles Graham,                   "	14.52	
Moses Sanborn,                   "	3.50	
	<hr/>	\$142.07
Grand total,		<hr/> \$5,168.00

## SPECIAL APPROPRIATIONS.

## SCHOOL-HOUSE TAX.

Union High School District, for pay- ment of debt and interest,	\$8,300.00	
District No. 3, for payment of debt and interest,	392.14	
District No. 12, debt and insurance,	167.00	
18, repairs and insurance,	91.00	
20,                   “	275.00	
	<hr/>	\$10,225.14

Paid as follows:

Geo. G. Jenness, committee, Dist. No. 22,	\$3.20	
Giles Wheeler,                   “                   “                   18,	91.00	
John Kimball,                   “                   Union Dist.,	1,000.00	
Géo. P. Meserve,                   “                   Dist. No. 20,	275.00	
Wm. A. Bean,                   “                   “                   12,	167.00	
Dan'l Holden,                   “                   “                   3,	232.14	
Harrison Partridge,                   “                   “                   3,	160.00	
John Kimball,                   “                   Union Dist.,	7,300.00	
	<hr/>	\$9,228.34
Balance undrawn,		996.80
		<hr/>
		\$10,225.14

## CITY PRECINCT.

## APPROPRIATIONS FOR 1876.

For payment of principal and interest on State House loan,	\$4,000.00	
payment of interest on Water-works debt,	7,500.00	
payment lighting streets,	2,800.00	
received interest on Water-works bonds,	120.00	
appropriation overdrawn,	69.48	
	<hr/>	\$14,489.48

Paid as follows:

J. L. T. Brown, lamplighter,	\$195.55
J. A. Dadmun, repairs,	13.75

O. C. Cole, painting lamp-posts,	\$46.65
Edwin Evans, gas-burners,	24.00
Concord Gas Light Co., 4 months,	758.60
“ “ 2 months,	368.38
Lowell Eastman, repairs,	9.00
Flanders, White & Houston,	2.25
J. A. Dadmun,	3.50
Concord Gas Light Co.,	564.10
Tufts Bros., burners,	10.20
Concord Gas Light Co.,	580.50
S. C. Eastman, interest on Water-works debt,	7,500.00
“ precinct State house note,	1,000.00
“ interest on State house debt,	3,413.00
	<hr/>
	\$14,489.48

## SEWERS.

Balance of appropriation, 1875, unex- pended,	\$1,876.99
Appropriation, April, 1876,	12,000.00
“ additional, June, 1876,	40,000.00
Premium on loan \$40,000,	2,480.00
Interest on same,	698.67
Received of state of N. H., sewer on Capitol street,	210.80
Received of Geo. A. Pillsbury, pipe sold, &c.,	43.71
Pipe, tools, and fixtures on hand, as per report of committee last year,	525.22
	<hr/>
	\$57,835.39

## Paid as follows:

Akron Sewer Pipe Co.,	\$26,905.18
“ “ for labor, sun- dry bills, and pay-rolls,	20,193.64
C. C. Lund, for engineering,	355.28
Carroll Hutchins, “	545.01
John McClintock, “	6.00
Providence Water-works, for inverts,	256.00
Samuel Holt, for brick,	1,473.92
Ira Whitcher, for lumber,	133.07
A. A. Cox, lumber,	96.08

E. B. Hutchinson & Co., lumber,	\$102.55
Charles Nutting, "	6.20
Flanders, White & Houston, lumber,	101.11
Scott & Newman, lumber,	33.68
Freight on lumber,	78.97
Smith & Derry, blacksmith,	137.44
S. M. Chesley, "	64.83
D. O. Smith, "	13.81
B. G. Carter, "	40.27
Nath'l M. Weeks, "	32.90
S. D. Trussell, "	3.30
Gust Walker, hardware,	209.79
Humphrey, Dodge & Co., hardware,	316.31
Thornton & Farnum, stone,	45.20
Bond & Carter, "	298.20
Fuller & Pressy, "	204.96
Ira Foster, "	51.00
Abial Smart, "	84.50
Woodworth, Dodge & Co., cement,	687.29
J. F. Cotton, cement,	432.62
Ford & Kimball, castings,	612.71
Thompson & Stratton, powder,	74.93
Stevens & Dunklee, incidentals,	33.66
B. G. Merrill, expenses to Akron, Ohio,	36.74
Woodbury & Batchelder, printing,	2.25
Abbot Downing Co.,	4.50
Concord Gas Light Co.,	18.12
J. C. Ingalls, damage,	9.75
John H. Morse, repairs,	15.02
George Goodhue, repairs,	15.00
Chas. H. Norton, horse hire,	13.75
Geo. A. Pillsbury, telegraphing, &c.,	13.84
J. F. Hoit, oil,	12.35
L. S. Richardson,	1.50
D. C. Allen & Co., repairs,	3.10
W. S. Blanchard, oil,	6.46
Geo. A. Pillsbury, harness,	12.00
Lyman R. Fellows, cash paid out,	11.53
Concord Railroad, freight,	5.40
S. W. Morrill, use of tools,	10.00
C. J. Rowe, labor,	1.87
Joseph Wentworth, rent of land,	40.00
Stevens & Dunklee, sundries,	8.67



Gust Walker, sundries,	\$1.05
B. C. & Montreal Railroad, freight,	33.25
Flanders, White & Houston,	1.50
H. S. Jenks, rent,	20.00
	<hr/>
	\$53,928.06
Balance unexpended,	3,907.33
	<hr/>
	\$57,835.39

The committee have pipe on hand		\$87,600.00
worth,	\$1,064.06	.
" " tools and lumber		
worth,	629.66	
Balance unexpended as above,	3,907.33	
	<u>          </u>	\$5,601.05

CITY PROPERTY, FEB. 1, 1877.

City Hall lot, and half of building,	\$40,000.00
City farm,	15,000.00
Personal property at farm, by appraisal,	4,483.00
Gravel lots at East Concord,	100.00
Gravel lot on Washington street,	2,000.00
Lot on Warren and Liberty streets,	700.00
Land and buildings on Warren street,	10,000.00
Land in Ward 2,	400.00
Ward house, Ward 2,	1,000.00
Ward house, Ward 6,	6,000.00
City storehouse, lot, lumber, and stone,	5,000.00
Tools in hands of sup't highways,	1,000.00
Receiving tomb,	350.00
Furniture in City Hall building,	200.00
Furniture in mayor's office,	125.00
Furniture in city clerk's office,	100.00
Furniture in city marshal's office,	100.00
Furniture in collector's office,	100.00
Four horses, \$300, \$200, \$250, \$250,	1,000.00
Harnesses and stable fixtures,	400.00
Street sprinklers, pipes, and fixtures,	550.00
Legacy of Abial Walker, for schools,	1,000.00
Legacy of G. P. Lyon, for library,	1,000.00
Legacy of Franklin Pierce, for library,	1,000.00
City library,	5,000.00
Gravel on A. B. Holt's lot,	700.00

Old cemetery fund, city bonds,	\$700.00
Central fire station,	34,000.00
Property in hands of fire department,	36,614.00
	<hr/>
	\$168,622.00

### APPROPRIATIONS 1876.

Paupers,	\$2,500.00
Fire department,	9,000.00
Incidentals,	6,000.00
Roads and bridges,	12,000.00
Committee service,	900.00
Police and watch,	3,900.00
Printing and stationery,	800.00
Professional services,	400.00
Salaries,	5,500.00
Interest on city debt,	16,000.00
Payment of city bonds due,	11,000.00
Public library,	1,000.00
State tax,	19,152.00
County tax,	16,344.22
Schools,	27,641.00
Repairs of highways,	10,000.00
School-house taxes,	9,205.14
Sewers,	12,000.00
Lighting streets,	2,800.00
City water-works,	7,500.00
Payment of floating debt,	13,000.00
Payment of principal and interest, state house debt,	4,000.00
	<hr/>
	\$191,942.36

Deduct amount received from state,—

Railroad tax,	\$16,632.56
Savings bank tax,	14,473.59
Literary fund,	1,132.20
Insurance tax,	1.87
	<hr/>
	\$32,240.22
	<hr/>
	\$159,702.14
Amount added by assessors,	4,066.15
	<hr/>
Amount raised by taxation,	\$163,768.29

## CITY DEBT AND ASSETS.

## FUNDED DEBT, PAYABLE AS FOLLOWS:

When due.	Rate of int.	Payable.	Amount.
Jan. 1, 1877,		matured,	\$1,000
April 1, 1877,	6,	semi-annually,	3,000
Jan. 1, 1878,	6,	annually,	7,000
Jan. 1, 1878,	5,	annually,	6,000
Nov. 1, 1878,	6,	semi-annually,	4,000
Jan. 1, 1879,	6,	annually,	3,000
April 1, 1879,	6,	semi-annually,	4,000
Nov. 1, 1879,	6,	semi-annually,	1,000
Jan. 1, 1880,	6,	annually,	8,000
April 1, 1880,	6,	semi-annually,	3,000
Nov. 1, 1880,	6,	semi-annually,	1,000
Jan. 1, 1881,	6,	annually,	7,500
April 1, 1881,	6,	semi-annually,	3,000
Nov. 1, 1881,	6,	semi-annually,	3,000
Jan. 1, 1882,	6,	annually,	5,000
April 1, 1882,	6,	semi-annually,	4,000
Nov. 1, 1882,	6,	semi-annually,	1,000
Jan. 1, 1883,	6,	annually,	5,000
Jan. 1, 1883,	5,	annually,	6,000
Nov. 1, 1883,	6,	semi-annually,	3,000
Jan. 1, 1884,	6,	annually,	2,000
April 1, 1884,	6,	semi-annually,	7,000
Nov. 1, 1884,	6,	semi-annually,	5,000
Jan. 1, 1885,	6,	annually,	2,000
April 1, 1885,	6,	semi-annually,	5,000
Nov. 1, 1885,	6,	semi-annually,	9,000
Jan. 1, 1886,	6,	annually,	1,500
April 1, 1886,	6,	semi-annually,	1,000
Nov. 1, 1886,	6,	semi-annually,	10,000
Jan. 1, 1887,	6,	annually,	1,500
Oct. 1, 1887,	6,	semi-annually,	10,000
Jan. 1, 1888,	6,	annually,	1,000
Oct. 1, 1888,	6,	semi-annually,	8,500
Jan. 1, 1889,	6,	annually,	2,000
Oct. 1, 1889,	6,	semi-annually,	10,000
Jan. 1, 1890,	6,	annually,	2,000
Oct. 1, 1890,	6,	semi-annually,	10,000
Jan. 1, 1891,	6,	annually,	1,000

When due.	Rate of int.	Payable.	Amount.
Oct. 1, 1891,	6,	semi-annually,	\$6,250
Nov. 1, 1891,	6,	semi-annually,	6,000
Oct. 1, 1892,	6,	semi-annually,	2,000
Nov. 1, 1892,	6,	semi-annually,	10,000
Oct. 1, 1893,	6,	semi-annually,	4,250
Nov. 1, 1893,	6,	semi-annually,	8,000
Oct. 1, 1894,	6,	semi-annually,	4,000
Nov. 1, 1894,	6,	semi-annually,	7,000
Oct. 1, 1895,	6,	semi-annually,	3,000
			<hr/>
			\$217,500

### FLOATING DEBT AND OUTSTANDING CLAIMS.

Notes,	\$9,800.00	
Interest,	461.00	
	<hr/>	\$10,261.00
Due for salaries and committee service,	\$2,182.00	
school districts,	809.76	
orders unpaid,	785.00	
	<hr/>	\$3,776.76
		<hr/>
		\$231,537.76

### AVAILABLE ASSETS.

Cash in city treasury,	\$2,141.67	
Due from tax list 1875,	3,455.12	
"          1876,	29,768.29	
Due from Merrimack county,	3,381.70	
on account of liquor agency,	678.42	
Blossom Hill Cemetery,	4,000.00	
on account of sidewalks laid,	593.04	
"          rent,	125.00	
note Moses Ordway and others,	200.00	
from city of Manchester,*	26.50	
from town of Campton,*	28.40	
	<hr/>	\$44,398.14
Indebtedness above assets, Feb. 1, 1877,		187,139.62
		<hr/>
		\$231,537.76

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\* Since paid.

Indebtedness Feb. 1, 1876, above assets,	\$200,525.71
Indebtedness Feb. 1, 1887,	187,139.62
	<hr/>
Decrease of city debt for year 1876,	\$13,386.49

## CITY PRECINCT DEBT AND ASSETS.

State House precinct notes, 6 per cent., semi-annually, payable Dec. 1, 1878,	\$1,500
“ 1879,	500
“ 1880,	1,500
“ 1881,	1,000
“ 1882,	1,000
“ 1883,	1,000
“ 1884,	1,000
“ 1885,	1,500
“ 1886,	2,500
“ 1887,	3,000
“ 1888,	3,500
“ 1889,	2,000
“ 1890,	3,000
“ 1891,	2,000
“ 1892,	2,000
“ 1893,	2,000
“ 1894,	3,000
“ 1895,	10,000
“ 1896,	7,000
	<hr/>
	\$49,000
Precinct notes for sewers, 6 per cent., payable \$8,000 annually on and after Dec. 1, 1882,	40,000
City Water-works,	350,000
	<hr/>
	\$439,000

## PRECINCT PROPERTY.

City Water-works,	\$350,000.00
Indebtedness of precinct above assets,	89,000.00
	<hr/>
	\$439,000.00

## INDEBTEDNESS OF PRECINCT FEB. 1, 1876.

State house debt,	\$50,300.00	
Water-works,	350,000.00	
	<hr/>	\$400,300.00
*Increase of debt during the year,		33,098.99

## INDEBTEDNESS OF PRECINCT FEB. 1, 1877.

State house debt,	\$49,000.00	
Water-works debt,	350,000.00	
Sewers debt,	40,000.00	
	<hr/>	\$439,000.00
Less cash in hands of treasurer on sewer account,		5,601.01
		<hr/>
		\$433,398.99

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\*Increased indebtedness on sewer account authorized by City Council, June 24, 1876.

## TRUST FUNDS.

**WALKER SCHOOL FUND.** This fund was a legacy of ABIAL WALKER. Will dated Jan. 3, 1855. "To the city of Concord aforesaid I give and bequeath one thousand dollars, in trust, to be added to the school fund of said city, the interest whereof to be divided in due proportion among all the districts in the city at the time the dividend takes place, to be paid over to said city in one year after my decease." The amount of this fund is \$1000, and is invested in a note of that sum of the Concord City Precinct, due in 1895.

**LYON LEGACY** is from G. PARKER LYON. Will dated Jan. 23, 1865. "I give and bequeath to the city of Concord, in the county of Merrimack, in trust for the increase of the free public library of said city, the annual income thereof only to be annually expended in the purchase of books for said public library, the sum of one thousand dollars." One precinct note of \$1000, interest 6 per cent., due 1896.

**PIERCE LEGACY** is from FRANKLIN PIERCE, ex-President of the United States. Will dated Jan. 22, 1868. "16th. To the city of Concord I give and bequeath, in trust for the 'Concord Public Library,' one thousand dollars, the interest of said sum to be expended annually in the purchase of books, and the principal to remain as a perpetual fund for the object indicated." One city bond of \$1,000, due 1885.

**COUNTESS RUMFORD LEGACY** is from the COUNTESS OF RUMFORD. Will dated Nov. 10, 1852. "To the town of Concord aforesaid, in trust for the benefit of the Concord Female Charitable Society, an association in said town, two thousand dollars, to be applied to the charitable uses and purposes of said society, and under its direction. And in case the said town should be incapable of or decline said trust, then the same is given and to be paid over to any two persons whom the executor of my will may elect and name to administer said trust." Note, Isaac A. Hill, \$2000, dated Jan. 27, 1877, secured by mortgage of real estate and surety.

**OLD CEMETERY FUND.** There has been invested of the proceeds of sales of lots \$700 in Water-works bonds, bearing 6 per cent. interest. The income from this fund is devoted to the care of the old cemetery.



## POLLS, VALUATION, AND TAXES ASSESSED.

The number of polls, and the tax assessed on the real and personal estate in the city of Concord, since 1860 :

Year.	No. of Polls.	Valuation.	Tax.
1860	2,577	\$4,307,192	\$47,082.25
1861	2,497	4,423,936	46,290.48
1862	2,350	4,208,568	50,945.01
1863	2,454	3,775,206	60,293.82
1864	2,539	3,832,800	89,931.97
1865	2,495	5,549,002	158,787.29
1866	2,762	4,934,082	116,192.97
1867	2,822	5,006,774	145,173.49
1868	3,120	5,378,365	126,889.71
1869	3,205	5,581,459	146,791.64
1870	3,187	5,751,928	133,953.94
1871	3,338	5,891,993	137,844.70
1872	3,767	5,917,054	141,122.97
1873	3,613	9,012,650	158,281.13
1874.	Polls.	Valuation.	Tax.
Ward 1,	422	\$805,608	\$11,340.85
2,	225	386,990	7,026.93
3,	211	357,770	5,322.76
4,	884	1,993,632	39,008.44
5,	736	2,693,625	53,137.14
6,	833	2,198,626	43,538.19
7,	473	564,275	8,949.07
Non-resident,			2,722.23
	3,784	\$9,000,526	\$171,045.61
1875.	Polls.	Valuation.	Tax.
Ward 1,	467	\$802,007	\$10,719.19
2,	241	409,001	5,941.11
3,	228	367,007	5,370.06
4,	951	1,974,173	40,105.68
5,	752	2,678,964	54,077.75
6,	817	2,306,361	46,761.42
7,	485	678,683	9,468.86
Non-resident,			3,190.61
	3,941	\$9,216,195	\$175,234.68
1876.	Polls.	Valuation.	Tax.
Ward 1,	424	\$831,137	\$10,500.61
2,	252	411,918	5,066.28
3,	242	383,533	5,396.26
4,	937	1,974,072	36,956.22
5,	743	2,635,025	49,949.42
6,	818	2,306,911	43,794.41
7,	495	680,029	9,516.76
Non-resident,			2,588.33
	3911	9,222,625	163,768.29

FIFTH ANNUAL REPORT  
OF THE BOARD OF WATER COMMISSIONERS TO  
THE CITY COUNCIL, FOR YEAR ENDING JAN-  
UARY 31, 1877.

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BOARD OF WATER COMMISSIONERS.

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GEORGE A. PILLSBURY, Mayor, *ex officio*.

ABEL B. HOLT.....to March 31, 1877.  
JOHN S. RUSS.....to March 31, 1877.  
BENJAMIN A. KIMBALL.....to March 31, 1878.  
JOHN M. HILL.....to March 31, 1878.  
SAMUEL S. KIMBALL.....to March 31, 1879.  
LUTHER P. DURGIN.....to March 31, 1879.

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OFFICERS.

B. A. KIMBALL, *President*.  
JOHN M. HILL, *Clerk*.  
CHARLES C. LUND, *Engineer*.  
V. C. HASTINGS, *Superintendent*.

## REPORT.

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*To the City Council:*

The Board of Water Commissioners present this their Fifth Annual Report for the year ending January 31, 1877.

### RECEIPTS.

Amount received, as per register from		
Jan. 31, 1876, to		
Feb. 1, 1877,	\$18,574.93	
extra per cent. from		
delinquents,	73.60	
for building purposes,	64.96	
use of meters,	57.06	
rent of stable at dam,	50.00	
rent of Cooledge		
house,	135.02	
old bills in 1875,	45.50	
	<hr style="width: 10%; display: inline-block; vertical-align: middle;"/>	\$19,001.07

### EXPENDITURES.

Paid John H. Morse, as per contract,	\$1,108.55
V. C. Hastings, salary,	1,200.00
Nathaniel White, rent,	300.00
Morrill & Silsby, printing,	40.27
Charles C. Pearson & Co., printing,	24.35
Woodbury & Batchelder, “	3.50
E. C. Eastman, “	1.65
Concord Gas Light Co.,	17.30
A. & G. A. Foster, horse hire,	16.00
Charles H. Norton, “	13.00
Ranlet & Prescott, coal,	27.38
G. S. Locke & Co., “	16.50
V. C. Hastings, incidentals,	21.83
Humphrey, Dodge & Co., hardware,	27.03
Gust Walker, “	15.54
R. C. Danforth, iron-work,	2.50

Paid Stevens & Duncklee, iron-work,	\$7.92
D. C. Allen, "	31.54
Geo. Goodhue, drain pipe, &c.,	60.83
James Hazelton, pipe and labor,	15.46
Ford & Kimball, castings,	30.77
Smith & Derry, smith-work,	12.66
D. B. Webber, smith-work,	3.00
R. D. Wood & Co., hydrants,	190.60
National Meter Co.,	66.00
Concord Railroad, freight,	9.56
S. Sewell, trucking,	9.77
J. F. Cotton, cement,	9.00
American Water & Gas Pipe Co., cement,	4.35
E. B. Hutchinson, lumber and labor,	8.35
Webster & Morgan, "	5.35
Connell & Savory, paint and labor,	8.99
Batchelder & Co., salt, &c.,	5.35
Vogler Brothers, cushions,	3.00
L. Holmes, boat,	51.44
F. P. Andrews,	15.00
A. J. Holmes, stove and labor,	23.47
Edwin Byrnes, labor,	123.75
H. Adams, pay-roll,	309.24
Levi Roby, "	312.50
M. H. Johnson, pay-roll,	71.50
F. A. Merrill, labor,	10.50
Morgan Howe, "	3.00
Chas. O. Foss, "	1.00
T. B. Tamblyn, land damage,	200.00
Moses H. and C. R. Farnum, land damage,	155.15
John Ballard, "	137.50
Lowell Brown, "	105.93
John Jordan, "	99.51
Ballard & Griffin, "	61.52
I. A. Hill, making deeds,	9.00
Josiah Minot, legal services,	90.00
Total expenditures,	<hr/> \$5,097.91
Divided as follows :	
For land damages,	\$759.61
distribution and service pipes,	1,477.97
care and maintenance of works,	2,476.33
expenditures at Long Pond,	384.00
	<hr/> \$5,097.91

The unexpected demand for new service pipes, the additional expenditures for raising the road at the head of Long Pond, together with the large number of claims for flowage which have been settled during the year, have obliged the Board to exceed their estimates, which have been partly met by the increased receipts, and the balance, from cash standing to credit of Water-Works at the close of last year.

The very considerable increase in the cash receipts for the current year was not anticipated, and is very gratifying, largely exceeding the estimate therefor, made in the last annual report. The amount is \$19,001.07 for 1876, against \$16,921.24 for 1875—a gain of \$2,079.83. This gain has been made during a year of great financial depression, and a consequent tendency to all possible economy on the part of our citizens. It augurs most favorable results upon the return of our wonted business prosperity.

The gross receipts have now reached a point where, with the allowance for hydrant use ordinarily paid by inland cities of New England, the Works would be self-supporting. The annual interest on the bonded debt (\$350,000) is \$21,000; and the expense for maintenance during the year has been \$2,476.33;—total, \$23,476.33. The cash receipts are \$19,001.07, and the use of ninety-three hydrants, at fifty dollars each, would have added \$4,650;—total, \$23,650.

The period is not far distant when the Works will not only afford a water supply for fire purposes, free to the precinct, but stand as a source of permanent revenue.

The hydrants and their connections were put in with the laying of the street mains, and have since been cared for and maintained by the Water-Works. The expense of this care and maintenance for the last year was \$315. Prior to the projection of the Works, the cost of new reservoirs, and the maintenance of others in the precinct, entailed upon the city an annual expense of several thousand dollars, increasing largely during the four or five years immediately preceding the introduction of Long Pond water. These reservoirs, at best, afforded a scanty and often inadequate supply of water in ordinary exigencies. Without enlarging upon our present ample means for security, we desire simply to advert to the fact of the relief to the city from this large and growing expenditure.

The superintendent estimates the average amount of water drawn daily during the year to be 525,000 gallons. The above estimate is made from meter measurements at different seasons of the year.

There has been laid during the year for distribution pipes, &c.,

1,200 feet of 6-inch,	1 public hydrant,
402 feet of 1-inch,	1 private hydrant,
73 feet of $\frac{3}{4}$ -inch,	2 stop gates;

and 118 service pipes, or 2,671 feet, which supply 140 families, 4 bath-tubs, 16 water-closets, 10 wash-basins, 24 yard hydrants, 1 heating apparatus, 1 green-house, 1 church, 1 school-house, 1 livery-stable, 13 private stables, 1 office.

## ESTIMATE OF RECEIPTS AND EXPENDITURES FOR 1877.

### RECEIPTS.

From water rents,	\$20,000.00
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### EXPENDITURES.

For interest on the water debt,	\$21,000.00
maintenance and care,	2,500.00
extension of mains,	500.00
new service pipes,	500.00
	<hr/> \$24,500.00

Excess of expenditures over receipts, to be provided for by taxation,	\$4,500.00
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Respectfully submitted,

BENJAMIN A. KIMBALL, JOHN M. HILL, ABEL B. HOLT, JOHN S. RUSS, SAMUEL S. KIMBALL, LUTHER P. DURGIN, GEORGE A. PILLSBURY,	} } } } } } }	<i>Board of Water Commissioners.</i>
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FINANCIAL STATEMENT  
OF THE  
CONCORD WATER-WORKS.

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SAMUEL C. EASTMAN, Treasurer, *in account with the Water-Works for the year ending January 31, 1877.*

RECEIPTS.

Balance of cash on hand February 1, 1876,	\$2,282.69
Received from the city of Concord, being the precinct tax,	7,500.00
Received for water rents,	19,001.07
	<hr/> \$28,783.76

EXPENDITURES.

Interest on bonds,	\$20,898.00
Maintenance, extensions, &c.,	5,097.91
	<hr/> \$26,995.91
Balance, cash on hand,	<hr/> \$2,787.85

Respectfully submitted,

SAMUEL C. EASTMAN, *Treasurer.*

CONCORD, N. H., February 1, 1877.

We have examined the foregoing account, and find that all the payments therein recorded are duly authenticated by proper vouchers, the several items correctly cast, and the amount of cash on hand to be \$2,787.85.

GEORGE A. PILLSBURY, ISAAC N. ABBOTT, GEORGE H. HILL. GEORGE F. UNDERHILL,	}	<i>Committee on Finance.</i>
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# REPORT

## OF THE

### COMMITTEE ON CITY FARM.

*To the City Council:*

The undersigned, joint standing Committee on the City Farm, respectfully present the twenty-fourth Annual Report of the receipts and expenditures of the City Farm, for the year ending February 1, 1877, together with the inventory of the property of the city belonging thereto. In presenting this report, your committee are of the opinion that the inmates at the farm have been properly cared for by the overseer and matron, who by their tender care have made them comfortable homes, and, judging from the financial exhibit of the past year, that the farm has been well managed.

GEORGE A. CUMMINGS, } *Committee*  
 WILLIAM STEVENSON, } *on*  
 CHARLES H. MERRILL, } *City Farm.*

#### INVENTORY OF PROPERTY AT CITY FARM, FEB. 1, 1877.

City Farm and buildings,	\$15,000.00
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#### ANIMALS.

12 cows,	\$40.00	\$480.00
2 horses,	200.00	400.00
11 hogs,	10.00	110.00
100 fowls,	.60	60.00
1 horse at city stable,		100.00
		\$1,150.00

#### HAY AND GRAIN.

7 tons No. 1 hay,	19.00	\$133.00
8 tons No. 2 hay,	14.00	112.00
4 tons oat straw,	14.00	56.00
1 ton rye, "	19.00	19.00

7 tons corn-fodder,	14.00	\$98.00
225 bu. corn,	1.00	225.00
55 bu. oats,	.60	33.00
36 bu. rye,	1.00	36.00
		<hr/>
		\$712.00

## FARMING TOOLS.

2 ox carts,	\$135.00
1 ox wagon,	70.00
5 plows,	65.00
1 ox sled,	20.00
1 ox traverse sled,	60.00
1 ex. wagon,	185.00
1 Concord wagon,	35.00
1 pung sleigh,	50.00
1 two-horse traverse sled,	50.00
1 mowing machine,	50.00
1 horse rake,	25.00
2 buffalo robes,	30.00
5 yokes,	20.00
2 cultivators,	15.00
3 harrows,	20.00
1 hay cutter,	15.00
1 set harness,	40.00
1 single harness,	30.00
1 set draft harness,	15.00
1 fan mill,	14.00
7 hay forks,	3.50
12 feed boxes,	2.00
2 splices,	5.00
10 baskets,	5.00
1 set dry measures,	1.50
1 two-horse pole,	5.00
10 chains,	12.00
6 hoes,	3.00
2 garden hoes,	1.00
2 manure claws,	2.00
4 halters,	4.00
1 drag rake,	1.00
3 planes,	3.50
3 augers,	2.00
5 axes,	3.00

1 grindstone,	\$2.00
4 scythes and snaths,	4.00
50 feet rope,	1.00
10 rakes,	2.00
4 wood-saws,	3.00
1 wheelbarrow,	6.00
4 ladders,	4.00
1000 feet lumber,	12.00
1 meat saw,	1.25
1 stone drag,	5.00
1 stone body,	8.00
6 shovels,	5.00
5 manure forks,	4.00
1 pick,	1.00
5 whiffletrees,	10.00
1 spread chain,	1.50
2 iron bars,	3.00
1 witch chain,	1.00
1 monkey wrench,	1.00
1 hammer,	.50
1 corn-cutter,	1.25
4 ox muzzles,	2.00
2 pairs steelyards,	1.50
1 mallet,	.50
4 chisels,	2.00
1 garden rake,	.40
2 cross-cut saws,	6.00
1 jackscREW,	5.00
1 brace and bits,	5.00
1 scalding tub,	4.00
1 handsaw,	1.00
1 pair pole straps,	3.00
1 garden fork,	1.00
1 saw-set,	1.00
4 bush scythes and snaths,	6.00
6 files,	1.00
1 branding iron,	1.00
1 hatchet,	.50
1 oil stone,	2.00
1 whitewash brush,	1.00
1 grain cradle,	3.50
1 ox cart body,	15.00
	<hr/>
	\$1,151.40

## HOUSEHOLD FURNITURE.

Beds and furniture,	\$600.00	
1 washing-machine,	10.00	
1 clothes-wringer,	8.00	
10 cider casks,	10.00	
38 dry casks,	4.00	
	<hr/>	\$632.00

## PROVISIONS AND FAMILY STORES.

400 lbs. ham,	\$50.00	
100 lbs. salt beef,	8.00	
50 lbs. fresh beef,	5.00	
750 lbs. salt pork,	90.00	
150 lbs. fresh pork,	15.00	
50 lbs. sausage,	7.50	
100 lbs. lard,	15.00	
5 lbs. butter,	1.50	
4000 lbs. squash,	40.00	
20 lbs. gr. sugar,	2.60	
7 bbls. apples,	9.00	
4 bbls. cider,	8.00	
1½ bbls. soap,	6.00	
1½ bbls. salt pickles,	12.00	
12 gal. pickles,	7.00	
2½ bbls. flour,	22.00	
2½ bbls. meal,	6.00	
140 bush. potatoes, No. 1,	110.00	
10 bush. potatoes, No. 2,	3.00	
80 bush. beets,	64.00	
6 bush. white beans,	18.00	
7 bush. colored beans,	17.00	
20 bush. turnips,	6.00	
30 gal. vinegar,	9.00	
25 head cabbages,	2.00	
38 cords dry wood,	190.00	
31 cords green wood,	108.50	
2 vinegar casks,	3.00	
3½ bush. salt,	2.50	
	<hr/>	\$837.60
Total inventory,		<hr/> \$19,583.00

## RECEIPTS.

LUCIUS L. FARWELL, *Supt.*

	DR.	
To outstanding bills due,	\$110.67	
cash from city treasurer,	314.00	
for labor, men and teams,	489.71	
for wood and lumber,	250.35	
for potatoes,	52.69	
for hay and straw,	130.86	
for vegetables,	41.52	
for meat and lard,	24.81	
for milk, butter, and eggs,	263.57	
for stock,	440.00	
for corn, oats, and beans,	35.72	
for pigs,	11.00	
for calves,	10.00	
due from county of Merrimack for		
board of county paupers,	697.76	
for sundries,	86.98	
	<hr/>	\$2,969.64

## EXPENDITURES.

LUCIUS L. FARWELL, *Supt.*

	CR.	
By cash paid for labor,	\$985.00	
groceries,	485.58	
grain and meal,	116.24	
blacksmith work,	103.01	
meat and fish,	64.52	
fowls,	28.90	
swine,	50.00	
stock,	434.00	
dry goods, boots and shoes,	60.70	
one pair horses,	380.00	
sundries,	191.19	
Overseer's salary,	600.00	
	<hr/>	\$3,499.14
Deficiency,		<hr/> 429.50

## STATEMENT.

Appraised value of farm and buildings, Feb. 1, 1876,	\$15,000.00	
Appraised value of personal property, Feb. 1, 1876,	4,649.34	
	<hr/>	\$19,649.34
Appraised value of farm and buildings, Feb. 1, 1877,	15,000.00	
Appraised value of personal property, Feb. 1, 1877,	4,483.00	
	<hr/>	\$19,483.00
Decrease during the year owing to de- preciation in valuation,		\$166.34

## Names of paupers at city farm Feb. 1, 1877 :

James W. Powers, aged 74 years.	John Euran, aged 82 years.
Eleazer Davis, " 86 "	James Drew, " 66 "
John B. Crummett, " 69 "	Henry Babb, " 55 "
Joseph Glines, " 80 "	George H. Young, " 13 "
Joseph H. Morrill, age unknown.	Charles H. Thompson, " 15 "
Sarah J. Sargent, aged 46 years.	

No death has occurred during the year.

Number of paupers at farm Feb. 1, 1877,	11
" " during the year,	17
Average number during the year,	10

Names of paupers discharged during the year ending Feb. 1, 1877 :

Orrilla Batchelder, April 15, 1876.

Edward L. Fisk, June 24, 1876.

James Drew, June 4, 1876.

Annie Wadsworth, Sept. 28, 1876.

Daisy A. Wadsworth, Sept. 28, 1876.

Charles F. Purrinton, Dec. 27, 1876.

Charles Merrill, Dec. 8, 1876.

Number of tramps lodged one night,	23
" " sent to house of correction,	2

## NINTH ANNUAL REPORT

TO THE

OVERSEER OF THE POOR FOR THE YEAR END-  
ING JANUARY 31, 1877.*To the Board of Mayor and Aldermen :*

GENTLEMEN: The undersigned herewith submits his ninth annual report of the expenditures for the poor, exclusive of those at the almshouse, for the year ending January 31, 1877 :

## CITY PAUPERS.

Names.	Nationality.	Amount.
Joshua S. Griffin, American,		\$15.00
Mrs. James K. Page, American,		78.00
Isaac Lewis Emerson, American,		10.00
Mrs. Roxanna Larkin, Irish,		6.00
George W. Foote, American,		5.00
Zachariah C. Arlin, American,		17.00
J. Everett Hutchins, American,		40.00
Mrs. John O'Brien, Irish,		10.00
Mrs. Sarah Haines, American,		3.00
Mrs. Clarissa Randall, American,		16.50
Nathan K. Emery, American,		3.50
Mrs. Orrison Dudley, American,		125.25
William Fagan, Irish,		5.00
John Harrington, Irish,		142.84
John J. Burke, Irish,		357.45
Mrs. Jane R. Purrington, American,		3.00
John L. Shackford, American,		14.00
Joseph P. Carpenter, American,		38.50
Charles H. Johnson, American,		137.00
Wm. L. George, American,		3.00
Edward Hodgman's family, American,		28.40
Henry G. Harrison, English,		8.00
Moses D. French, American,		1.00
Calvin Worth, American,		2.00
Henry W. McMichael, Irish,		15.00
Timothy Dorety, Irish,		10.00
		<hr/> \$1,094.44



Received from the town of Weare, for support of Charles H. Johnson and family,	\$137.00	
Received from D. A. Macurdy,	5.00	
Cha's H. Amsden,	2.00	
Dr. Crosby,	10.00	
Geo. F. Whittredge,	1.00	
sundry persons,	76.00	
Due from the town of Campton,*	28.40	
Due from the city of Manchester,*	26.50	
		<hr/>
		\$285.90
		<hr/>
		\$808.54
Paid State Reform School for maintenance of Bernard Dorien,	\$34.86	
Paid State Reform School for maintenance of Emma J. Sargent,	104.00	
		<hr/>
	\$138.86	
Refunded by Anthony Coleman,	34.86	
		<hr/>
		\$104.00
Paid for the support of insane persons at the asylum, as follows :		
Abner F. Durgin,	\$243.88	
Ellen M. Summers,	222.30	
Samuel McDaniels,	150.71	
Betsey Haines,	57.41	
Joseph P. Carpenter,	34.23	
		<hr/>
		\$708.53
		<hr/>
		\$1,621.07

### COUNTY PAUPERS.

Aid furnished county paupers residing in Concord, as follows :

Mrs. Joseph Mossey, French,	\$3.14
Mrs. Emily Suppy, French,	46.90
Mrs. Ellen Woods, Irish,	3.50
Mrs. Martin Deveney, Irish,	113.13
Hiram Stevens, American,	1.75
Kate Bresnehan, Irish,	2.50

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\* Since paid.

Mrs. James Flynn, Irish,	\$67.00
Mrs. Lucretia Danforth, American,	7.40
Sylvester Kiggins, Irish,	21.00
Joseph Godett, French,	5.75
Isaac Mason, French,	75.25
Patrick Gannon, Irish,	4.00
George W. Foote, American,	5.00
Thomas Prevey, French,	1.75
Mrs. Orlando Philbrick, American,	32.00
Michael Florence, French,	8.40
Lewis Langley, French,	10.00
Bennett M. Pratt, American,	20.00
Elizabeth Clary, Irish,	14.50
James Plimpton, English,	30.00
Nancy Dorety, Irish,	66.75
Nancy Pearson, American,	78.00
Israel Shepard, American,	52.00
Mrs. Mary Pattee, American,	64.00
Mrs. Patrick Flanagan, Irish,	52.50
Narcissie LeClair, French,	15.75
Theophilus Langelier, French,	3.00
Mrs. William Marsh, American,	6.00
James Rowe, American,	19.00
Edward N. Clinton, American,	40.00
Eugene Casey, Irish,	3.98
Mrs. William Hannagin, Irish,	14.90
Mrs. Thomas Wheeler, American,	3.50
Patrick Coughlin, Irish,	10.50
Mary Storin, Irish,	15.00
Mrs. Levi Fortia, French,	17.00
Nancy O'Hara, Irish,	43.50
Patrick Larkin, Irish,	7.00
Mary Owens, Irish,	142.60
Amelia Bassett, French,	56.00
Mrs. Amasa Ramsdell, American,	26.00
Gardiner K. Knowles, American,	130.00
James M. Drew, American,	4.00
Benj. G. Tucker, American,	2.00
John F. Brown 2d, American,	92.75
Mrs. Daniel Blackstone, Irish,	11.49
George Washington, colored,	7.00
Lovell J. Sherman, American,	3.00
Eleazer Bazro, French,	32.25

Mrs. Calahan McCarty, Irish,	\$51.08
Moses Danforth, American,	11.00
Mrs. Thomas Coty, French,	102.50
Georgianna Powell, American,	62.00
Ellen Geary, Irish,	6.05
	<hr/> \$1,725.07

The foregoing list of county paupers are those who have previously been aided.

The following are the names of those added the past year, viz. :

Martin Farrill, Irish,	\$20.50
William S. Prescott, insane, died,	38.79
Lucian Shepard, American,	4.00
David Hogg, English,	21.00
Joseph Cote, French,	8.00
Mrs. Robert T. Orr, American,	22.00
John K. Lang, American,	16.50
Fred Baldwin, American,	16.00
Sarah J. Robinson, American,	15.00
Mary Stone, French,	2.75
Paul Myartt, French,	38.63
George C. Beckett, Irish,	19.50
William Tonkin, English,	8.50
Mrs. Richard Cooper, American,	32.50
Charles Merrill, American,	7.75
Edward R. Stevens, American,	6.50
Charles M. Buckman, American,	8.00
Frank Ubitt, French,	11.60
Fred Trudeau, French,	8.00
John T. French, American,	5.50
Joseph O. Perkins,	7.40
Fred Larry, Irish,	6.50
Levi Marston, American,	5.00
Anna Collins, Irish,	19.95
James B. Henry, American,	3.00
Reuben H. Palmer, American,	14.32
Sarah C. Stevens, American,	14.50
John Chartrec, French,	4.00
Timothy Mahoney, Irish,	7.50
Moses Lull, American,	10.00
Moses Lull, Jr., American,	5.00

Arvillie Boutin, French,	\$20.50
Johnson Wells, American,	3.50
Isaac Lor, French,	49.50
William L. Buswell, American,	3.50
Rhoda Robinson, Irish,	14.24
Bridget Lee, Irish,	1.75
William F. Drew, American,	7.00
Lizzie Woodward, American,	61.00
Charles A. Kimball, American,	15.00
Arthur Shay, Irish,	12.50
Miss Priscilla C. Walker, American,	55.00
Mrs. Anna Holland, American,	36.00
Simon F. Drew, American,	28.00
John B. Cilley, American,	26.62
Edward Ozier, French,	12.00
Maria Bacon, American,	15.00
Felix LeRue, French,	36.25
Patrick Desmond, Irish,	25.48
Sarah A. Dudley, American,	107.00
Thomas W. Scott, Scotch,	16.00
Clara J. Dolan, Irish,	17.00
Transient persons,	41.39
	<hr/>
	\$1,012.42
Amount charged to county pauper ac- count, off the city farm,	1,725.07
	<hr/>
	\$2,737.49
Eleven persons chargeable to the county have been supported at the city almshouse the past year at an ex- pense of	\$693.71
	<hr/>
Total expenditures on county pauper account the past year,	\$3,431.20
Received March 14, 1876, on the above account,	49.50
	<hr/>
Balance due, audited, and allowed by the county commissioners,	\$3,381.70

Four hundred and forty-eight applications for aid were received at this office the past year, the larger part of whom received more or less assistance, as the exigencies of the

cases required. The number of persons constituting the several families and individuals aided as above was 422, being 100 more than the year preceding. Of this number 87 only had acquired a legal settlement in the city. Seven have died the past year,—3 males and 4 females, one of whom was 88 years old.

Thanking His Honor the Mayor, the Board of Aldermen, and all others who have aided in the discharge of this branch of city service, this report is

Respectfully submitted,

C. F. STEWART,

*Overseer of the Poor.*

# REPORT

OF THE

## COMMITTEE ON SEWERS.

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*To the City Council :*

The Committee on Sewers and Drains respectfully report that 45,844 feet, or 8.68 miles, of sewers have been laid within the precinct.

The annual appropriation made in April last (\$12,000), was barely sufficient for the construction of the main Brook sewer, so called, from West to Pleasant street, which was to form the main outlet for most of the sewers to be laid in the streets in that portion of Wards 6 and 7 comprised in the first or southern drainage district, and which was to be of sufficient capacity to drain about 200 acres of land.

Frequent complaints had been made (and not without cause) of the unhealthy condition of the portion of the city to be drained through this main, by reason of defective sewerage, and many petitions were presented and applications made asking that sewers be laid in other parts of the city. The introduction of Long Pond water seems to necessitate the construction of sewers, as it was found that many persons wished to avail themselves of the water, but could not do so unless they could dispose of the waste water.

This matter finally came before the city council for action in June last, and it was unanimously voted that the precinct

be authorized to borrow, on the credit of the city, the sum of \$40,000, in addition to the amount voted at the time of making the annual appropriations to be expended by your committee during the year.

This sum of money has been borrowed at a rate of interest a little less than 5 per cent., on notes for \$8,000, dated June 1, 1875, payable annually after five years. It was supposed that with this sum nearly five miles of sewer could be laid, but, owing to the low price of material, and the abundance of labor, and the extremely favorable weather, 8.68 miles have been laid.

It will be noticed, by referring to the report of the water commissioners, that the receipts for water are \$2,079.83 more than for the year previous. These receipts are largely due to the fact that means have been provided to get rid of the waste water.

Of the amount expended during the year, \$20,193.64 has been for labor. This sum has been distributed, to a great extent, among those who are dependent upon their daily labor for the support of their families, and had it not been for the work thus furnished them, they would have been dependent upon the city for their support.

The wisdom of authorizing the expenditure of this additional amount during the past year cannot be questioned, and it will meet the approval of the tax-payers generally, as they will have the use of the sewers by paying the interest on the cost of the same; and we have no doubt that they would have been willing to pay at least three times as much for the privilege, to say nothing of the benefits resulting from the construction of the sewers as a sanitary measure.

In proceeding with the construction of the sewerage system, it has been found necessary to build two new outlets at large expense. One of these outlets, for the first division, known as the Brook sewer, extends from a point 169 feet south of West street northerly through the low ground, following most of the way as nearly as practicable the course



of the former brook across West, Downing, Perley, Laurel, Thorndike, and Monroe, to South street, and through South street to Fulton, and through Fulton to the old brook again, thence coming north in the low ground across Lincoln to Pleasant street. From the present mouth of the sewer, for a distance of 2,624 feet, it is built of brick, laid in cement, 24x36, egg-shaped, upon 8-inch Akron pipe inverts. The remainder, from near Fulton to Pleasant street, 766 feet, is 24-inch round Akron pipe, with cement joints. This sewer now discharges itself into the brook a short distance below West street, and the sewage passes away in that brook which was formed by the natural drainage of the low ground west of State street and at the foot of the hill. This brook empties into the river nearly down to Bow crossing. It will probably become necessary to extend this sewer to the river at some convenient point, probably near the Countess of Rumford place, before many years.

The other main outlet of the 4th division extends from the Merrimack river, at a point about 400 feet north of the Free bridge, north-westerly across the Ferry road, the Boston, Concord & Montreal, Northern, and Concord & Claremont railroads to Main street near Fisk's store, and across Main and Fisk streets to the easterly end of Church street—3,510 feet in all. The first 80 feet from the outlet is 24-in., and the remainder is 20-in., round Akron pipe. At the mouth in the river bank the pipe is protected by a retaining wall of solid stone masonry, laid in cement, 20 ft. long, 14 ft. high, and an average of 8 ft. thick, and around the ends of the wall and in front the bank is well rubbled.

The following tabular statement shows the amount and sizes of pipe sewers laid in the streets:

STREETS.	Sizes of Pipes.				
	8-in.	10-in.	12-in.	15-in.	18-in.
Academy, north from Cambridge.....	160				
Beacon, west from Bethel.....			400		
Cambridge, west from Maple.....	75	240			
Capitol, west from Main.....	60		356		
Centre, west from Spring.....		206	690		
Chapel, west from Main.....		500			
Church, west from Fiske.....		50	350	250	450
Court, west from Main.....		500			
Cross, west from Brook Sewer.....	90		265		
East from Brook Sewer.....		500	535		
Depot Street and Railroad Square, Main Street to Railroad.....					780
Downing, west from Brook Sewer.....			14		
East from Brook Sewer.....		400	425		
Elm, north from Thompson.....	145				
North from Fayette.....	178				
Essex, south from Washington.....		380			
Fayette, east from South.....		750			
West from Main.....	172				
Fisk, Church to State.....				710	
Franklin, west from State to Henry.....			1152		
West from Walnut to Brook.....			130		
Fremont, north from Pleasant.....			325		
Fulton, west from Brook Sewer to Spring			196		
Garden, west from Rumford to Huntington		223			
Hanover, north from School.....		425			
Henry, north from Franklin.....		368			
Huntington, south from Centre.....	150				
Jackson, north from Washington.....	75	205			
North from Franklin.....		375			
Jefferson, south from Thompson.....	200				
Laurel, east from Brook Sewer.....		350	350		
Liberty, north from Pleasant.....	100	242			
Lincoln, west from Brook Sewer.....			185		
Main, north from Washington to Pearl...			265		
Maple, west from State.....		300			
Marshall, west from Spring.....		325			
Merrimack, north from Pleasant to Or- chard.....			365		
North from Warren.....		386			
Monroe, east from Brook Sewer.....		485	600		
Montgomery, west from Main.....			550		
Myrtle, south from Thompson.....	200				
Orchard, west from Merrimack to Pine....		566			
Oak, west from Spring.....	250				
Park, west from Main.....			460		
Pearl, west from Main.....		525			

STREETS.	Sizes of Pipes.				
	8-in.	10-in.	12-in.	15-in.	18-in.
Perley, east from Brook Sewer.....		400	450		
Pierce, north from Perley.....	198				
South from Perley.....	148				
Pine, south from Orchard.....	140				
Pleasant, east from Brook Sewer.....		265	25		
West from Brook Sewer.....			978	880	
Rumford, north from Pleasant.....			555		
North from School.....	40		175		
South from Centre.....		240			
South from Short.....		140			
School, west from Spring.....		135	716		
Short, west from Rumford.....		525			
South, north from Fulton.....		335	660		
South from Monroe.....		475	535		
Spring, south from Thorndike.....		413			
South from Cross.....		205	215		
South from Fulton.....			382		
North from Fulton.....	90				
North from Lincoln.....	150		230		
North from Pleasant.....			485		
North from Maple.....		425			
State, north from Cross.....		440			
South from Church.....			215	450	
North from Fiske.....				735	
Summit, south from Centre.....	333				
South from School.....	295				
Tahanto, north from Warren.....		500			
Thompson, east from South.....		25	825		
Thorndike, east from Brook Sewer.....		325	300		
West from South.....		265			
Wall, east from South.....		310			
Walnut, north from Beacon.....			552		
Warren, west from Merrimack.....	84		286		
Washington, west from Alert Hose House				450	1400
West, west from Brook Sewer.....			585		
Total,	3333	13724	15782	3475	2630

## SUMMARY.

8-in. pipe,	3,333 feet.
10-in. “	13,724 “
12-in. “	15,782 “
15-in. “	3,475 “
18-in. “	2,630 “
20-in. “ Northern Outlet,	3,430 “
24-in. “ Brook Sewer, &c.,	846 “
24x36 brick, Brook Sewer,	2,624 “

45,844 feet,=8.68 miles.

All the above pipe-sewer is of Akron round pipe, with meets inserted for entering the sewer, to accommodate each house and vacant lot. There have also been constructed eighty-nine 8-inch lamp-holes, and fifty-five 18-inch man-holes, at suitable places for inspecting and cleaning the sewers. The 18-inch pipe, laid through Depot street and Railroad square, was intended to take in a sewer, should be it necessary, extending northerly in the rear of the buildings on the east side of Main street, and was extended to and into the Main street sewer, a short distance below the junction of the Warren street main. It is believed that the effect of thus tapping the Main street sewer at this point will relieve that sewer, so that no further trouble will be experienced from back-water therefrom in sudden, violent showers.

Complete plans have been prepared embracing the sewers laid this year, and all sewers previously laid of which there were no plans, which show the location of the sewers in the streets, with the location of the various man-holes, lamp-holes, catch-basins, and other appurtenances of the system, with profiles showing the grades. The position of each inlet is indicated on the plans, to which reference may be had, from time to time, as entrances are made.

#### RECAPITULATION.

Street.	Ft.
Academy,	160
Beacon,	400
Cambridge,	315
Capitol,	416
Centre,	896
Chapel,	500
Church,	1,100
Court,	500
Cross,	1,390
Depot and Railroad Square,	780
Downing,	839
Elm,	323

Street.	Ft.
Essex,	380
Fayette,	922
Fisk,	710
Franklin,	1,282
Fremont,	325
Fulton,	196
Garden,	223
Hanover,	425
Henry,	368
Huntington,	150
Jackson,	655
Jefferson,	200
Laurel,	700
Liberty,	242
Lincoln,	185
Main,	265
Maple,	300
Marshall,	325
Merrimack,	751
Monroe,	1,085
Montgomery,	550
Myrtle,	200
Orchard,	566
Oak,	250
Park,	460
Pearl,	525
Perley,	850
Pierce,	346
Pine,	140
Pleasant,	2,148
Rumford,	1,150
School,	851
Short,	525
South,	2,005
Spring,	2,595
State,	1,840
Summit,	628
Tahanto,	500
Thompson,	850
Thorndike,	890
Wall,	310
Walnut,	552

Street.	Ft.
Warren,	370
Washington,	1,850
West,	585
From east end of Church street to Merri-	
mack river,	3,510
Brook Sewer,	766
Brook Sewer, brick,	2,624
	<hr/>
Total No. feet laid in 1876,	45,844
Total cost (see finance committee's report,	
page 20),	\$53,928.06
Less amount received from State on sewer,	
Capitol street,	\$210.80
amount for pipe sold,	43.71
amount balance stock on hand,	1,168.50
bills paid 1875,	201.19
	<hr/>
	\$1,624.20
	<hr/>
Total net cost for 1876,	\$52,303.86
or \$1.14 $\frac{1}{10}$ per foot.	

It will be observed that the cost per foot for sewers laid in 1876 is much less than in any previous year, owing to the causes above specified. It has been our endeavor to have them constructed in the most scientific and thorough manner.

GEO. A. PILLSBURY,	} Committee
BYRON G. MERRILL,	
GEORGE A. CUMMINGS,	
	on
	Sewers.

# REPORT

## OF THE

### CEMETERY COMMITTEE.

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*To the City Council:*

The Cemetery Committee beg leave to submit the following annual report :

#### OLD NORTH CEMETERY.

##### *Receipts.*

From sale of lots,	\$15.00
interest on fund,	42.00
	<hr/>
	\$57.00

##### *Expenditures.*

Keeping avenues and grounds in order,	55.20
	<hr/>
Balance in hands of City Treasurer,	\$1.80

#### BLOSSOM HILL CEMETERY.

##### *Receipts.*

From sale of lots,	\$2,028.65
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##### *Expenditures.*

For general care of cemetery,	\$653.93
grading and laying out new addition,	1,506.17
	<hr/>
	\$2,160.10

The bills and pay-rolls for which have been audited by the City Council.



The larger expenditure during the year has been for grading a portion of the new addition, to put it in suitable shape for selling, and the cost of this grading has been added to the price of lots. Sufficient ground has been graded to lay out lots to the value of about \$8,000, all which lots will be well situated. The necessary expenses for the coming year will be only such as are necessary to keep the grounds in order, say about \$1,000.

Plans and estimates have been procured for a building such as was recommended in last year's report, but the erection of the same has not yet been finally determined upon. We hope to build it in the coming spring. We also hope for an appropriation to build a good fence around the whole cemetery, so that the grounds may be protected from trespassers, in the absence of the superintendent and his men. The cemetery will not be in satisfactory condition till this is done.

Respectfully submitted,

CHARLES C. LUND,	}	<i>Cemetery Committee.</i>
CHARLES WOODMAN,		
JAMES H. CHASE,		

## REPORT

OF THE

## TRUSTEES OF THE PUBLIC LIBRARY.

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*To the City Council:*

The Trustees of the Public Library present the following report for the year ending February 1, 1877.

The library now contains six thousand seven hundred and sixty-one volumes—having been increased the past year, by purchase and donation, two hundred and thirty-nine volumes. In addition to the above, Mr. Geo. E. Jenks has presented to the library many volumes of "The Scientific American." These have not yet been placed upon the catalogue, as a few numbers are missing; but when completed, as they soon will be, they will add a valuable set of books for reference in the departments of Mechanics and Science.

"The Architect and Builders' News," a weekly paper, is received, and the back volume has been purchased. The numbers of Dr. Jasper's "Birds of the North" are procured as fast as published.

Among the valuable books purchased are the volumes which complete the set of "The New American Cyclopaedia," "Life and Letters of Lord Macaulay," "Allibone's Dictionary of Authors," "Complete Works of Count Rumford." Also, "Discoveries at Ephesus," by J. F. Wood, F. R. S. Fifty volumes of "Harper's Magazine," with complete index, have been placed upon the shelves, and will furnish a very valuable set for reference in many departments of study. A new supplement to the catalogue will soon be published, giving these volumes added.

The number of volumes charged and taken from the library by subscribers is twenty-four thousand nine hundred and sixteen,—showing that the books are in use. Twelve hundred and

forty-one persons have taken books the whole or a part of the year, which is an increase upon the number of last year of four hundred and ten. This is owing largely, no doubt, to the removal of the library to a more central location—a suggestion which was made by the Trustees last year, and early acted upon by the City Council, resulting not only in convenience to those using the library, but also in an increase of the number availing themselves of its privileges fifty per cent.

The financial condition of the library is presented in the following statement of its treasurer. The privileges now offered by the library should not merely be continued: they should be increased each year, and for this an appropriation will be needed equal to, if not exceeding, that of last year.

The desire of the Trustees is to open new and valuable avenues of service by these books. Acting upon this desire, and believing that the public library is a public educator—the adjunct and supplement of the common school—they have opened the library every afternoon and evening, Sundays excepted, for the exchange of books. They have also recently voted to extend the privileges of the library to persons of surrounding towns, upon the payment annually of one dollar each.

New facilities for reference will soon be offered. There are now quite a number of Cyclopedias and valuable books of reference, which may be of great service if used. A place and table for consulting these books will be provided, and it is hoped that any who have need of such books will avail themselves of these opportunities. One of the great benefits of a public library is, that it can offer books which but few individuals can buy, and give the privilege of consulting authorities at once when a question or subject shall rise for investigation. The value of this privilege depends entirely upon the use we make of it individually; and if each one who has desire for information on any subject will go to the librarian, find what is in the library and use it, or suggest any valuable works of reference not now there, he will not only aid himself, but the trustees also, in purchasing books in the future. Mechanics, artists, those engaged in special studies, can thus, by suggesting books they need to read, help many others, and secure the enlargement of the library in the direction most needed.

Many mechanics and artists, many young men, are now availing themselves of these advantages,—but they are yet too few; and many, after the labors of the day, might gain much information which would be valuable. While the public library should furnish the incentives and supplies for thorough reading, its usefulness depends upon the individual improvement of its privileges.

Respectfully submitted,

A. W. FISKE, O. T. CLOUGH, J. W. COLWELL, F. D. AYER, GEO. E. JENKS, J. L. STANLEY, AMOS BLANCHARD,	}	<i>Trustees of Public Library.</i>
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F. S. CRAWFORD, *Librarian.*

### TREASURER'S REPORT.

WM. P. FISKE, Treasurer, *in account with the Concord Public Library.*

1876.		Dr.	
Feb. 1.	To	balance from last year,	\$208.77
June 10.		appropriation (in part),	250.00
July 5.		“ “	100.00
Aug. 19.		“ “	250.00
Nov. 14.		“ “	200.00
Dec. 29.		“ “	200.00
1877.			
Feb. 1.		receipts from library,	243.63
		interest on Lyon Fund,	60.00
		“ Pierce “	60.00
			\$1,572.40
1876.		Cr.	
Feb.	By	paid gas bill,	\$26.24
Mar. 4.		E. C. Eastman,	37.29
		Bay State Paper Co.,	33.42
31.		F. S. Crawford, salary,	75.00
May 4.		Ranlet & Prescott,	11.45
29.		H. Vincent Butler and Statesman Building,	35.00
June 20.		E. C. Eastman,	115.25

July	1.	By paid F. S. Crawford, salary,	\$112.50
		gas bill,	21.00
	3.	E. C. Eastman,	78.23
	6.	H. V. Butler,	5.00
Aug.		Republican Press Associat'n,	50.25
Sept.	1.	F. S. Crawford, salary,	75.00
Oct.	10.	gas bill,	30.00
	1.	F. S. Crawford, salary,	37.50
Nov.	1.	" "	37.50
	28.	Ranlet & Prescott,	8.75
Dec.	1.	F. S. Crawford, salary,	37.50
	23.	Ranlet & Prescott,	17.75
	29.	E. C. Eastman,	212.37
1877.			
Jan.	1.	F. S. Crawford, salary,	37.50
	20.	for subscription books, etc.,	98.66
		Republican Press Associat'n,	9.50
Feb.	1.	F. S. Crawford,	37.50
		F. S. C., for binding, etc.,	206.67
		By balance cash on hand,	125.57
			<hr/>
			\$1,572.40

WILLIAM P. FISKE, *Treasurer.*

Concord, N. H., Feb. 22, 1877.

# REPORT

## OF THE

# CITY LIQUOR AGENT.

---

*To the City Council:*

The undersigned respectfully submits the following report of his agency, in the purchase and sale of wines and liquors in the city of Concord, from Feb. 1st, 1876, to July 1st, 1876:

Amount of stock and fixtures Feb. 1,		
1876,	\$864.17	
Since purchased,	470.48	
Amount of profit on sales,	131.24	
	<hr/>	\$1,465.89

*Contra.*

Amount of stock and fixtures July 1st,		
1876,	\$678.42	
Received for liquors and casks,	787.47	
	<hr/>	\$1,465.89

### CASH ACCOUNT.

Received for liquors and casks,	\$787.47	
Cash on hand Feb. 1, 1876,	19.34	
	<hr/>	\$806.81

*Contra.*

Cash paid for liquors,	\$470.48
Freight and expenses,	10.00
Cash paid for incidentals,	5.00
Shrinkage on liquors,	50.00

Agent's salary,	\$125.00	
Cash paid into city treasury,	146.33	
	<hr/>	\$806.81
All bills paid.		
Number of sales, 2,027.		

J. E. CLIFFORD.

STATE OF NEW HAMPSHIRE, Merrimack ss. }  
November 23, 1876. }

Personally appeared the above-named J. E. Clifford, and made oath that the above statement by him subscribed is true. Before me,

THEOPHILUS B. MARTIN,  
*Justice of the Peace.*

#### REPORT OF THE SPECIAL COMMITTEE ON CITY LIQUOR AGENCY.

##### *To the City Council :*

At a meeting of the Board of Mayor and Aldermen, held on the 21st day of March last, the following vote was passed :

*Voted,* That the appointment of a Liquor Agent at Fisherville be indefinitely postponed.

And at a regular meeting of the City Council, held on the 29th day of April last, the following ordinance was passed :

#### CITY OF CONCORD.

*In the year of our Lord one thousand eight hundred and seventy-six.*

An Ordinance abolishing the City Liquor Agency.

*Be it ordained by the City Council of the City of Concord as follows :*

That the Mayor and the Committee on Police and Licenses be instructed to close out and abolish the city Liquor Agency on or before July 1, 1876.

In board of Mayor and Aldermen, April 29, 1876. Passed.

GEO. A. PILLSBURY, *Mayor.*

In Common Council, April 29, 1876. Passed in concurrence.

HENRY CHURCHILL, *President.*



In accordance with the vote passed on the 21st day of May, no agent has been appointed at Fisherville during the year.

On the first day of July last the Mayor and committee on police and licenses caused an inventory of all the liquors, fixtures, and other property connected with the agency to be taken, and the same was appraised at \$678.42. The balance, as shown by the report of the liquor agent, amounting to the sum of \$146.33, was paid into the city treasury. The agency was closed at that time, and the liquors and other property connected with the same were removed to the basement of the City Hall building, and remain, subject to the order of the City Council.

GEO. A. PILLSBURY,        }  
SAMUEL W. SHATTUCK, } *Special*  
  *Committee.*

Concord, Feb. 1, 1877.

# REPORT

OF THE

## CITY SOLICITOR.

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*To the City Council:*

At the present time there remain upon the docket of the court three cases in which the city is a party, viz., Harlan P. Gage and wife *v.* Concord, John F. Edgerly and wife *v.* Concord, and John B. Giles *v.* Concord. Since my last report, the suits William R. Cook *v.* Concord and Ada I. Clark *v.* Concord have been settled, on terms satisfactory to the city. They were both suits for damages alleged to have been occasioned by a defective highway. The case of Jonathan Kimball *v.* Concord has been tried by a jury, and resulted in a verdict for the city. The suit was similar to the two last named. The case of Gage and wife *v.* Concord, above-mentioned, has also been tried by a jury, and resulted in a disagreement. This was an action to recover damages for a broken leg, caused, as the plaintiffs allege, by a slippery sidewalk. The Giles case has been referred to in previous reports;—at the last term of the court a non-suit was ordered, exceptions were taken, and it has been transferred to the law term of the court.

Mrs. Edgerly claims \$15,000 damages for injuries received, as she says, by reason of her horse becoming frightened at a stream of water thrown from one of our hydrants by the fire department while testing its efficiency, overturning her carriage, and throwing her upon the ground. This case has not been reached.

Many complaints of course have arisen from time to time about injuries alleged to have been received from defective highways, but by the prompt, wise, and prudent action of the city authorities, litigation has been avoided. We can well congratulate ourselves that but three cases of this character have been tried by a jury during the last six years, in two of which the city obtained a verdict, and in the other the jury disagreed with most of the jurors in favor of the city.

CHAS. P. SANBORN, *City Solicitor*.

Concord, Feb. 24, 1877.

## REPORT OF THE POLICE JUSTICE.

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*To the Mayor and Board of Aldermen of the City of Concord:*

The Police Justice herewith submits the twenty-fourth annual report:

Thirty-nine civil actions have been entered in the Police Court during the financial year ending with this date.

One hundred and four foreigners during the year have been fully naturalized, and thirty-eight others have filed their declarations of intention to become citizens.

One hundred and eighty-nine arraignments for alleged criminal offences have taken place before the court during the year.

Such of those prosecutions as have been participated in by the officers of the city, are more fully described in the reports of the city marshal and of the assistant city marshal of this date.

On the first of August last, a vacancy occurred in the clerkship of the Police Court by the resignation of Herbert F. Norris, Esq., in pursuance of an intention announced by him early in the year, and Capt. Rufus P. Staniels was subsequently appointed clerk.

The Police Justice charges himself as follows:

For costs belonging to the city, received in	
criminal prosecutions,	\$171.78
finer received,	708.87
fees received in civil actions,	21.03
	<hr/>
	\$901.68

And discharges himself, as follows :

Paid for blanks and expenses,	\$6.41	
city treasurer,	895.27	
	<hr/>	\$901.68

The business of the court will probably be much increased hereafter, in consequence of the act passed by the last legislature, giving to police courts jurisdiction in civil actions involving sums not exceeding one hundred dollars.

SYLVESTER DANA,

*Police Justice.*

Concord, January 31, 1877.

## REPORT OF THE CITY MARSHAL.

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*To the City Council:*

GENTLEMEN:—I have the honor to present, for your consideration, my report of the business of the Police Department of the city of Concord for the year ending Jan. 31, 1877.

The whole number of arrests made during the year, not including those made at Fisherville, was 291, as follows :

Intoxication,	110
Assault,	39
Rude and disorderly conduct,	31
For being out late at night,	28
Keeping liquor for sale,	18
Larceny,	16
Suspicious persons,	11
Noise, brawl, and tumult,	9
Evading railroad fare,	5
Cruelty to animals,	3
Driving horse farther than stipulated,	3
Common drunkards,	2
Insane persons,	2
Keeping open saloon on Sunday,	2
Threatening,	2
Common street-walker,	2
Bastardy,	2
Fornication,	2
For not providing for family,	2
For allowing a horse to go at large,	2
Total,	<hr/> 291

Of the above cases, 137 were arraigned before the police court charged with the following offences, to wit :

Assault,	36
Intoxication,	31
Keeping liquor for sale,	18
Larceny,	14
Rude and disorderly conduct,	10
Noise, brawl, and tumult,	5
Evading railroad fare,	4
Driving horse farther than stipulated,	3
Common drunkards,	2
Keeping open saloon on Sunday,	2
Fornication,	2
Threatening,	2
Assaulting officer,	2
Common prostitute,	2
For not providing for family,	1
For allowing a horse to go at large,	1
Common street-walker,	1
Bastardy,	1
	<hr/>
	137

And were disposed of as follows :

Sentenced to pay fines,	97
Ordered to recognize to appear at the supreme court,	28
Dismissed or not prossed,	6
Sentenced to the house of correction,	3
Sentenced to jail,	1
Discharged,	1
Ordered to recognize to keep the peace,	1
	<hr/>
	137
Discharged from custody without complaint,	154
	<hr/>
Total,	291
Whole number of lodgers accommodated at the station-house during the year,	352
Whole number of prisoners and lodgers,	643

Respectfully submitted,

JOHN CONNELL,

Concord, January 31, 1877.

*City Marshal.*



*To the City Council:*

The undersigned respectfully submits the following report of the Police Department in Ward 1, for the year ending January 31, 1877 :

Whole number of arrests made during the year, 56.

Intoxication,	16
Assault,	8
Larceny,	5
Disorderly conduct,	2
Insane,	2
Snow-balling in street,	1
Running away from home,	1
Bastardy,	1
Noise and brawl,	2
Evading railway fare,	2
Attempt to commit rape,	1
Keeping liquor in saloon,	1
Keeping liquor for sale,	2
Exposure of person,	2
Playing ball Sunday,	8
Kindling fire on land not his own,	1
Breaking and entering,	1
	<hr/>
	56

Of the above cases, 27 were arraigned before the police court charged with the following offences, to wit :

Intoxication,	7
Assault,	8
Larceny,	4
Keeping liquor in saloon,	1
Breaking and entering,	1
Keeping liquor for sale,	2
Attempt to commit rape,	1
Kindling fire on land not his own,	1
Noise and brawl,	2
	<hr/>
	27

And were disposed of by the police court as follows :

Sentenced to pay fines,	23
Ordered to recognize to appear at supreme court,	2
Discharged,	2

---

27

Whole number of lodgers accommodated at the station,	97
---	----

Number persons and lodgers,	153
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Persons discharged from custody without com- plaint,	29
---	----

Respectfully submitted,

JOHN CHADWICK,

*Assistant City Marshal.*

## CHIEF ENGINEER'S REPORT.

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*To the City Council:*

In compliance with Sec. 3 of an Ordinance relating to the Fire Department, it becomes my duty as chief engineer to report to you the condition and workings of the department, for the year ending January 31, 1877.

It has not been necessary to make any large outlay for repairs of apparatus the past year, but such repairs have been made, from time to time, as seemed to be necessary to keep the machinery in the most effective condition.

The entire precinct apparatus (with the exception of the steamer "Gov. Hill," out of commission) has within the year been thoroughly varnished, and such other repairs made as to leave it in the most perfect order, and making it unnecessary to provide for any large expenditures for maintenance of machinery for the coming year. At the commencement of the year the hose belonging to the precinct was found to be in bad condition. It was immediately tested, and such as was found to be defective was put in as good condition as its age would warrant, and the whole amount thoroughly oiled. Five hundred feet of new hose was purchased of Samuel Eastman & Co., making a total of 4,900 feet now in use in the precinct. Of the above amount, 650 feet has been in service so long as to be incapable of sustaining with safety the pressure when attached to hydrants in the lower portions of our city, and results in much delay at fires by the bursting of hose, oftentimes at the most critical moment in the progress of a fire. In view of this fact I would recommend the purchase of at least one thousand feet of hose immediately.

The department has occupied the new station on Warren st. for over a year, and there seems to be nothing lacking for the

comfort and convenience of the men, and also for the safety of the apparatus, except the method of heating the building. The present method of heating, which is by means of a hot air furnace, is very defective,—warming only a portion of the building, and making it necessary to use a stove for heating the tower while drying hose. It seems to me that the most perfect and at the same time the most economical method of heating the building would be by steam; and I most earnestly recommend that measures be taken the coming summer to provide means for heating it in the manner proposed.

It has been evident for a long time that the means we have at present for communicating an alarm of fire are very poor, and as our city extends its limits, the evil is aggravated. It seems to me that the time has come for us to provide better means for communicating alarm to our firemen, and I would recommend that as soon as practicable a telegraphic fire alarm be procured, thus ensuring a greater degree of safety for the lives and property of our citizens from that terrible enemy, *fire*.

To the gentlemen constituting the Committee on Fire Department, for the cordial support and coöperation that have been given the past year; to the Board of Engineers, and the officers and men of the entire department, for their thorough discipline and efficiency; and to the chief and officers of the police force, for preserving order at fires, and rendering all the assistance in their power, I would express my sincere thanks.

Respectfully submitted,

JAMES N. LAUDER,  
*Chief Engineer.*

## LIST OF FIRES AND ALARMS DURING THE YEAR.

Feb. 15, 1876. Paint shop, corner Walnut and Beacon streets. Loss, \$100; fully insured.

Mar. 3. Calvin Couch's house, Turnpike street. Loss, \$1,000; insured, \$600.

Mar. 17. J. M. Blake's house and buildings, Church street. Loss, \$10,000; insured, \$8,000.

Mar. 18. Michael Callahan's house, Tremont street. Loss, \$50; fully insured.

Mar. 24. Old Barracks near gas-house. Loss trifling.

Mar. 30. Christopher Allen's barber shop, Main street, building owned by J. R. Hill. Loss, \$50; fully insured.

April 4. Alarm caused by burning out chimney at Dr. Morrill's house. No damage.

April 10. Alarm caused by explosion of lamp, old Post Office building, School street. No damage.

April 19. Barn owned by B. Biddle, on interval near R. R. Depot. Loss, \$700; fully insured.

May 19. Buildings known as old Whitney house in Ward 7. No loss.

May 30. House owned by W. W. Hill, Centre street. Loss, \$50; fully insured.

June 3. Barn and farming tools belonging to Kelley & Keenan, near Sewall's Falls. Loss, \$800; insured \$500.

July 6. House and Barn owned by J. M. Corliss, at Fisherville. Loss \$900; insured.

July 8. House owned by Wm. Carroll, on the Weston lot. Loss, \$800; fully insured.

July 15. Fire at Caldwell's shop, south end of Main street. Loss small.

Aug. 2. V. Cahagan's house, corner State and Cross streets. Loss, \$300; fully insured.

Sept. 1. False alarm.

Oct. 25. Fire at Cotton's flour store. Loss trifling.

Nov. 21. Alarm caused by burning chimney at Page Belting Company.

Dec. 3. Fire at county jail. Loss, \$1,200; insured.

Dec. 16. Barns and contents belonging to J. H. and Miss Sarah Herbert. Loss, \$2,000; insured, \$1,500.

Dec. 23. Alarm caused by fire in Bow.

Jan. 26, 1877. Fire at gas house. Loss, \$50; no insurance.

# ROLL OF THE FIRE DEPARTMENT

## FOR 1877.

### CHIEF ENGINEER.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
JAMES N. LAUDER,	Master Mechanic N. R. R.	Franklin street.

### ASSISTANT ENGINEERS.

JOSEPH S. MERRILL,	Carriage Trimmer,	State street.
N. H. HASKELL,	Painter,	Perley street.
CHAS. M. LANG,	Painter,	Centre street.
WM. D. LADD,	Iron Merchant,	Rumford street.
DANIEL B. NEWHALL,	Saloon-keeper,	School street.
MOSES H. BEAN,	Manufacturer,	Ward one.
CYRUS R. ROBINSON,	Manufacturer,	Ward two.
WYMAN W. HOLDEN,	Manufacturer,	Ward three.

WILLIAM D. LADD, Clerk.

### SCHEDULE OF PROPERTY.

Six fire suits, \$75; 6 badges, \$48; 8 fire hats, \$64; 6 lanterns, \$30;—total, \$217.

#### *Miscellaneous property not in service.*

2 hose-carriages, \$325; 2 brass trumpets, \$10; 3 bells, \$8; 1 set new grates for steam-er, \$7; 2 brass crank boxes, \$4; 1 lignum-vita crank box, \$3; 3 extra lathes for pump packing, \$3; 3 extra pump valve guides, \$3;—total, \$363.

#### *Schedule of Property at Central Fire Station.*

1 wheelbarrow, \$6; 2 vises, \$12; 1 fire pot, \$4; 1 step-ladder, \$8.50; 1 ash pail, \$3; 3 set hose clamps, \$4.50; 3 riveting bars, \$4; 1 setting-tool, \$1.50; 1 pair cut nippers, \$1.50; 10 punches, \$2; ½ ton cannel coal, \$11.50; 3 cords slabs, \$6; 8 tons hard coal, \$68; 4 barrels coke, \$6; 1 grindstone, \$8;—total, \$146.50.

## KEARSARGE STEAM FIRE ENGINE COMPANY.

## OFFICERS.

GEO. L. LOVEJOY, <i>Foreman.</i>	B. FRANK HARDY, <i>Clerk.</i>
GEO. A. GLOVER, <i>Assist. Foreman.</i>	JAS. H. SANDERS, <i>Engineer.</i>

## MEMBERS.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
Geo. L. Lovejoy,	Carriage Painter,	Fayette street.
Geo. A. Glover,	Tinsmith,	State street, cor. West.
B. Frank Hardy,	Clerk,	Fayette street.
Warren F. Corning,	Hair Dresser,	Green street.
Jas. H. Sanders,	Carriage Painter,	State street, cor. Cross.
Chas. H. Sanders,	Machinist,	South street.
A. L. Currier,	Baggage Master,	Prince street.
D. W. C. Everett,	Clerk,	Auburn street.
C. S. Packard,	Painter,	Green st., cor. Warren.
C. C. Blanchard,	Carriage Painter,	Warren street.
E. A. Rix,	Carriage Trimmer,	State street.
A. P. Davis,	Freight Conductor,	State st., cor. Downing.
Lewis Wright,	Driver,	Engine House, War. st.

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*Schedule of Property—Steamer Kearsarge.*

Steamer, \$3,200; hose-carriage, \$200; 12 fire suits and 13 fire hats, \$232.25; 10 reefing jackets, \$75; 2 blunderbusses, with spray nozzles, \$53; 1 hydrant coupling, \$16; 3 lanterns and 2 water-buckets, \$12; 1 smoke stack, \$10; 10 spanner belts, \$10; 10 sets spanners, \$10; 7 wrenches, \$5; 1 shovel, 1 bar, 1 axe, \$4; 1 poker, 1 oil-can, 5 feet rubber hose, 1 hammer, \$3.50; 1 reducer, \$2.50; 2 horse blankets, \$10; 1 mud apron, \$5; 1 jack-screw, \$5; 2 gallon oil-cans and 2 hydrant wrenches, \$5; 1 feather duster, 1 hand brush, \$3.75;—total, \$3,862.



## EAGLE HOSE COMPANY, No. 1.

## OFFICERS.

JOHN H. MORSE, *Foreman.*G. W. JOHNSON, *Clerk.*FRANK W. BLAKE, *Asst. Foreman.*

## MEMBERS.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
John C. Morse,	Plumber,	Spring st., near Warren.
Frank W. Blake,	Clerk,	No. 16 Thompson street.
G. W. Johnson,	Painter,	No. 24 Main street.
Reuben R. Grant,	Blacksmith,	School st., near Main.
C. Ernest Barrett,	Engineer,	Mills street.
Frank F. Morse,	Carpenter,	No. 32 Warren street.
Wm. T. Packard,	Moulder,	Centre street,
Jos. H. Toof,	Stable-keeper,	State st., near Pleasant.
J. H. Danforth,	Carpenter,	No. 53 State street.
Chas. E. Sewall,	Teamster,	No. 54 Warren street.
John Marsh,	Driver,	Spring st., near Pleasant.
B. F. Colby,	Fireman,	Main street.

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*Schedule of Property—Eagle Hose, No. 1.*

One four-wheeled hose-carriage, \$700; 1 two-horse pole, \$30; 1 hand pole and rope reel, \$10; 30 feet  $\frac{3}{4}$  inch rope, \$2; 12 fire hats, \$75; 12 reefing jackets, \$90; 14 canvas coats, 14 canvas overalls, \$140; 2 hand lanterns, \$5; 1 axe, \$3; 1 iron bar, \$2; 2 leather hose pipes, 1 Allen's spray and stop nozzle, 1 common nozzle, \$45; 2 reducing castings, \$5; 2 pails, \$1; 1 sprinkler, \$1; 2 chamois skins, \$1.25; 1 whip, \$1.25; 1 horse blanket, \$5; 2 oil-cans, \$1; 2 hydrant wrenches, \$4; 2 ladder straps, \$2; 4 sets spanners, \$4; spanner belts, \$3.25; 1 broom, .25;—total, \$1,133.

## ALERT HOSE COMPANY, No. 2.

## OFFICERS.

CHAS. C. CHESLEY, *Foreman.*B. F. TUCKER, *Clerk.*HENRY TUCKER, *Asst. Foreman.*

## MEMBERS.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
Chas. C. Chesley,	Carpenter,	Prince street.
Henry Tucker,	Moulder,	Franklin street.
J. F. Scott,	Carpenter,	Franklin street.
G. B. Buzzell,	Carpenter,	Franklin street.
E. H. Dixon,	Clerk,	Fremont street.
B. F. Tucker,	Organ Manufacturer,	Jackson street.
W. E. Tucker,	Organ Manufacturer,	Henry street.
B. Billsborough,	Painter,	Essex street.
W. A. Bean,	Organ Manufacturer,	State street.
W. H. Davis,	Tailor,	Washington street.
E. A. Saltmarsh,	Moulder,	Walnut street.
F. S. Johnson,	Harness-maker,	State street.

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Schedule of Property—Alert Hose, No. 2.

Brick house and furniture, \$2,500; 1 four-wheel hand hose-carriage, \$600; 12 fire suits, \$150; 12 fire hats, \$75; 6 spanner belts, \$9; 12 spanners, \$9; 2 blunderbusses and nozzles, \$40; 1 wrench and shovel, \$2.50; 2 hydrant wrenches, \$4; sponge and chamois skin, \$1.40; water-pail and dipper, \$1; dust-brush and broom, \$1; 13 straps for suits, etc., \$5; feather duster, \$4; copper boiler, \$8.50; carriage jack, \$2.60; 1 axe, \$1.50; rubber hose and nozzle, \$12.50;—total, \$3,427.

## GOOD WILL HOSE COMPANY, No. 3.

## OFFICERS.

STERLING COLBY, *Foreman.*NORRIS A. DUNCKLEE, *Clerk.*JOHN McNULTY, *Asst. Foreman.*

## MEMBERS.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
Sterling Colby,	Clerk,	State st., cor. of Laurel.
John McNulty,	Machinist,	State st., cor. of Perley.
Norris A. Duncklee,	Stable-keeper,	Fayette street.
Norman G. Carr,	Jeweller,	Thompson street.
Herman D. Webster,	Wood-worker,	Grove st., cor. of Perley.
John F. Bartlett,	Blacksmith,	West street.
David J. Rolfe,	Painter,	State st., cor. of Laurel.
Wm. E. Dow,	Painter,	Turnpike street.
Benjamin F. Bickford,	Farmer,	Main street.
Levi G. Woods,	Machinist,	Warren street.
Frank Pendergast,	Stone-worker,	Allison street.
Henry B. Shute,	Wood-worker,	State street.

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*Schedule of Property—Good Will Hose Company, No. 3.*

Brick house and furniture, \$3,000; 1 four-wheel hand hose-carriage, \$600; 12 fire suits, \$150; 12 fire hats, \$75; 6 spanner belts, \$9; 12 spanners, \$9; 2 blunderbusses and nozzles, \$40; 2 hydrant wrenches, \$4; sponge and chamois skin, \$1.40; water-pail and dipper, \$1; 1 feather duster, \$4; 1 broom and shovel, \$2; mop and spittoons, \$4.50; copper kettle, \$8.50; 50 feet hand hose, \$12.50; carriage jack, \$3.50; screw wrench, 8.60, —total, \$3,925.

## HOOK AND LADDER COMPANY, "CITY OF CONCORD."

## OFFICERS.

N. B. BURLEIGH, <i>Foreman.</i>	ANDREW L. LANE, <i>Treasurer.</i>
J. L. T. BROWN, <i>Asst. Foreman.</i>	N. E. FLINT, <i>Clerk.</i>

## MEMBERS.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
N. B. Burleigh,	Machinist,	No. 3 Maple street.
J. L. T. Brown,	Carriage-builder,	Thorndike street.
Andrew L. Lane,	Carriage-builder,	No. 1 Perley street.
Jos. H. Lane,	Carriage-builder,	No. 1 Laurel street.
C. A. Wright,	Car-builder,	No. 30 Perley street.
Benjamin Oulette,	Carpenter,	No. 3 Jefferson street.
N. H. Shattuck,	Auctioneer,	State st., cor. Maple.
A. H. Webster,	Carriage-builder,	No. 44 State street.
S. W. Emerson,	Teamster,	No. 33 Downing street.
Philip Plummer,	Carpenter,	No. 138 Spring street.
N. E. Flint,	Machinist,	No. 7 Maple street.
C. H. Smith,	Teamster,	Ferry street.
D. D. Jameson,	Blacksmith,	Thorndike street.
Jas. Kennedy,	Painter,	Essex street.
Jas. L. Johnson,	Painter,	Main street.
F. S. Abbott,	Clerk,	Rumford st., cor. Short.
C. C. Nutter,	Painter,	Spring st., cor. Camb'ge.
Henry Gibney,	Painter,	Marshall street.
Ned Shattuck,	Carpenter,	Beacon street.
E. C. Runnels,	Stone-cutter,	Walnut street.

*Schedule of Property—Hook and Ladder Company, "City of Concord."*

Carriage and apparatus, \$1,500; 20 fire suits, \$250; 20 fire hats, \$125;—total, \$1,875.

## PIONEER ENGINE COMPANY, No. 1.

## OFFICERS.

ROBERT CROWTHER, <i>Foreman.</i>	J. B. DODGE, <i>Clerk and Treas.</i>
JOHN H. ROLFE, <i>Asst. Foreman.</i>	E. E. ROLFE, <i>Steward.</i>

## MEMBERS.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
Robert Crowther,	Overseer,	Summer street.
John H. Rolfe,	Door-maker,	Summer street.
J. B. Dodge,	Glazier,	Charles street.
E. E. Rolfe,	Cabinet-maker,	Merrimack street.
John H. Moore,	Machinist,	Elm street.
Rufus Cass,	Machinist,	High street.
Eli Hanson,	Cabinet-maker,	Main street.
Geo. W. Corey,	Carpenter,	Charles street.
John W. Powell,	Moulder,	Centre street.
W. O. Tucker,	Mechanic,	High street.
Wm. Walsh,	Overseer,	Centre street.
Wm. W. Allen,	Merchant,	Main street.
H. P. Austin,	Cabinet-maker,	High street.
M. D. Boyce,	Excelsior-maker,	Depot street.
N. C. Bean,	Teamster,	Merrimack street.
Jas. S. Crowther,	Carpenter,	Summer street.
Charles Couch,	Teamster,	Summer street.
Fred G. Chandler,	Farmer,	Depot street.
Michael Corbett,	Flour-packer,	High street.
Geo. N. Dutton,	Carver,	Main street.
Augustus Davis,	Blacksmith,	Main street.
Samuel N. Burdick,	Machinist,	Summer street.
Frank O. Emerson,	Axle-maker,	Tremont street.
E. P. Everett,	Axle-maker,	Merrimack street.
Fred Ferrin,	Cabinet-maker,	High street.
Andrew Foley,	Axle-maker,	Centre street.
O. J. Fifield,	Harness-maker,	Washington street.
Patrick Foley,	Axle-maker,	Centre street.
J. B. Goldsmith,	Butcher,	Washington street.
Michael Griffin,	Laborer,	Rolfe street.
Horace Holcombe,	Machinist,	Church street.
Hazen Knowlton,	Carpenter,	Depot street.

## MEMBERS—CONTINUED.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
John C. Linehan,	Merchant,	Charles street.
Chas. G. Morse,	Cabinet-maker,	Merrimack street.
R. G. Morrill,	Teamster,	Washington street.
J. E. Marden,	Machinist,	Summer street.
W. H. Moody,	Butcher,	Summer street.
Amos O. Mansur,	Painter,	Main street.
Abial Rolfe,	Insurance Agent,	Depot street.
Henry Rolfe,	Carpenter,	Depot street.
Abial W. Rolfe,	Door Manufacturer,	Depot street.
Arthur F. Rolfe,	Book-keeper,	Depot street.
George H. Sayer,	Machinist,	High street.
Lewis J. Sebra,	Carpenter,	Merrimack street.
Daniel Smith,	Butcher,	Summer street.
Samuel G. Sanborn,	Blacksmith,	Main street.
Nathan H. Dunbar,	Teamster,	Summer street.
Geo. W. Vanica,	Excelsior manufacturer,	Depot street.
John G. Ward,	Cabinet-maker,	Charles street.
Harry A. Clark,	Cabinet-maker,	High street.

*Schedule of Property—Pioneer, No. 1.*

Engine house, \$1,010; 1 engine (hand), \$800; 2 hose carriages, \$150; 600 feet 2-inch leather hose (new), \$900; 300 feet 2-inch leather hose (old), \$100; 1 set runners, \$5; 5 lanterns, \$5; 3 axes, \$2; 1 crowbar, \$3; 6 fire-jackets, \$30; 2 stoves and funnel, \$40; 6 settees, \$20; 6 chairs, \$3; 1 oil-can and 4 lamps, \$2; 1 fire hook and rope, \$25; 1 signal lantern, \$2; 6 spanners and wrenches, \$3;—total, \$3,100.

This is a Button machine, playing two powerful and effective streams. The house and entire apparatus are in good order. There are five reservoirs at Fisherville, valued at \$1,300.

## OLD FORT ENGINE COMPANY, No. 2.

## OFFICERS.

ROBERT H. POTTER, *Foreman.*  
JOHN N. HILL, *Asst. Foreman.*

JOHN E. FRYE, *Clerk.*  
GEO. H. CURTIS, *Treasurer.*

## MEMBERS.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
Robert H. Potter,	Butcher,	Shawmut street.
John N. Hill,	Section man,	Penacook street.
John E. Frye,	Farmer,	Penacook street.
Albert H. C. Knowles,	Stone-cutter,	Shawmut street.
Geo. W. Moody,	Carpenter,	Portsmouth street.
Frank V. Osgood,	Blacksmith,	Penacook street.
Edmund S. Curtis,	Farmer,	Curtisville.
Geo. H. Curtis,	Musical instrument maker,	Portsmouth street.
Wm. A. Bean,	Butcher,	Shawmut street.
Elbridge Emery,	Farmer,	Shawmut street.
Daniel B. Sanborn,	Farmer,	Shaker street.
Edward R. Noyes,	Teamster,	Shawmut street.
Lauren Clough,	Station agent,	Shawmut street.
Ora Hodge,	Teamster,	Mill street.
Job C. Jenne,	Carpenter,	Penacook street.
Chas. P. White,	Stone-cutter,	Pembroke street.
Jos. E. Plummer,	Farmer,	Penacook street.
Geo. W. Lake,	Farmer,	Penacook street.
Frank E. Sleeper,	Carpenter,	Shawmut street.
Lucius D. Bunnell,	Carpenter,	Penacook street.
John M. Smith,	Stone-cutter,	Eastman street.
Harrison Carpenter,	Hose-maker,	Penacook street.
Lucius A. Bunnell,	Carpenter,	Penacook street.
Ami Dubia,	Stone-cutter,	Penacook street.
Wm. Flanders,	Hose-maker,	Penacook street.
Wm. P. Curtis,	Farmer,	Curtisville.
Walter F. Lake,	Butcher,	Penacook street.
Chas. C. Chesley,	Blacksmith,	Penacook street.
Stephen Dustin,	Brick-maker,	Shawmut street.
Edward A. Newell,	Teamster,	Penacook street.

*Schedule of Property—Old Fort, No. 2.*

House, \$300; engine and hose-carriage, \$500; 371 feet new leather hose, \$500.50; 300 feet old leather hose, \$150; 1 pole, for two horses, \$16; fire hook and rope, \$15; 1 set runners, \$10; 6 settees, \$24; 2 stoves and funnel, \$6; 2 axes and one bar, \$3; 2 lanterns and lamps, \$4; 2 fire suits, \$8; 6 chairs and table, \$3; 4 buckets, \$8; 2 whiffletrees and chains, \$2; stand, glass, and brush, \$1; 1 shovel, \$1; trumpet, \$5; 2 hose and ladder straps, \$3; 2 spanners, \$1.50;—total, \$1,561.

This is a Hunneman machine. Its hose and other apparatus are in good repair.



## CATARACT ENGINE COMPANY, No. 3.

## OFFICERS.

JOHN E. GAY, <i>Foreman.</i>	J. M. CROSSMAN, <i>Clerk.</i>
G. S. KELLUM, <i>Asst. Foreman.</i>	HARRISON PARTRIDGE, <i>Treasurer.</i>

## MEMBERS.

<i>Names.</i>	<i>Occupation.</i>	<i>Residence.</i>
John E. Gay,	Quarryman,	School street.
G. S. Kellum,	Stone-cutter,	High street.
J. M. Crossman,	Blacksmith,	Main street.
Harrison Partridge,	Merchant,	Main street.
W. S. Lougee,	Stone-cutter,	Hutchins street.
F. P. Crossman,	Quarryman,	Main street.
Patrick Crowley,	Quarryman,	Main street.
Joel D. Waller,	Mechanic,	Main street.
H. H. Farnum,	Teamster,	Main street.
George Partridge,	Kit-maker,	Main street.
John Madison,	Quarryman,	Main street.
John Harrington,	Mill operative,	Main street.
Jeremiah Quinn,	Mill operative,	High street.
Michael Jenkins,	Mill operative,	Main street.
Geo. H. Speed,	Stone-cutter,	Main street.
James Bemon,	Quarryman,	Abbottville.
George Kemp,	Mill operative,	Main street.
Michael T. Hayes,	Mill operative,	Main street.
Thomas Daley,	Stone-cutter,	Mill street.
Patrick Conway,	Mill operative,	Main street.
Robert Crowley,	Blacksmith,	Main street.
Henry K. Randlett,	Teamster,	Main street.
John Murphy,	Quarryman,	Main street.
P. E. Blanchard,	Stone-cutter,	Main street.
Chas. Dimond,	Quarryman,	Abbottville.
A. D. Powell,	Painter,	High street.
O. A. Downing,	Quarryman,	Abbottville.
S. A. Remington,	Teamster,	School street.
John Roberts,	Blacksmith,	Hutchins street.
John St. Clair,	Painter,	Main street.

*Schedule of Property—Cataract, No. 3.*

House, \$911.80; engine and hose-carriage, \$600; 550 feet 2-inch leather hose, \$412.50; 316 feet new hose, \$440.95; 3 hose clamps, \$10.50; 1 pole, \$16; 1 set runners, \$10; 3 axes, 1 crow-bar, \$5; 2 fire suits, \$8; 4 buckets and 2 lanterns, \$12; 1 trumpet, \$5; 2 stoves and funnel, \$10; 8 settees, \$32; 1 signal lantern, \$3; 6 spanners and belts, \$5; 1 chain and whiffletree, \$2; 2 torches, \$1; 1 monkey-wrench, \$1.25; 3 hydrant wrenches, \$6; 3 reducers, \$7.50; 1 oil-can, .50;—total, \$2,083.20.

This is a Hunneman machine. Apparatus in good condition.

## SUMMARY OF FIRE DEPARTMENT.

## IN PRECINCT.

Engineers,	6
Steamer members,	12
Hose members,	36
Hook and Ladder members,	20
	— 74

## WITHOUT PRECINCT.

Members at Fisherville,	50
Members at East Concord,	30
Members at West Concord,	30
Engineers,	3
	— 113
	<hr/> 187

## SCHEDULE OF CITY PROPERTY—FIRE DEPARTMENT.

Engine house and lot,	\$34,000.00
Property at Central station,	146.50
Hose,	5,200.00
Engineer's department,	217.00
Steamer Gov. Hill,	1,500.00
Steamer Kearsarge,	3,862.00
Eagle Hose, No. 1,	1,133.00
Alert Hose, No. 2, house and furniture,	3,427.00
Good Will Hose, No. 3, house and furniture,	3,925.00
Hook and Ladder, No. 1,	1,875.00
Pioneer, No. 1, Fisherville, including house,	3,000.00
Old Fort, No. 2, East Concord, including house,	1,561.00
Cataract, No. 3, West Concord, including house,	2,500.00
Miscellaneous property, not in use,	363.00
Reservoirs and pipes attached,	7,905.00
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Total,	\$70,614.50

## PUBLIC RESERVOIRS.

	Capacity—Cubic feet.	Value.
1. Main street, near Abbot-Downing Co.'s,	1,000	\$300
2. " near Harvey, Morgan & Co.'s,	1,000	300
3. " corner of Pleasant street,	*1,500	450
4. " middle front state house yard,	*1,500	450
5. " rear of city hall,	2,000	300
6. State street, corner of Washington street,	500	200
7. " opposite Winter street,	500	100
8. " in high school yard,	3,000	700
9. " corner of Pleasant street,	1,000	300
10. " near Geo. H. Emery's,	1,000	300
11. " corner of West street,	800	100
12. South street, corner of Cross street,	800	200
13. " near A. Downing's,	1,000	300
14. Thompson street, near Geo. W. Crockett's,	1,100	300
15. Rumford street, near Josiah Minot's,	1,000	300
16. Orchard street, corner of Pine street,	4,000	500
17. School street, near J. V. Barron's,	3,500	500
18. Centre street, corner of Union street,	1,000	300
19. Gas-holder, rear of Main street,	44,000	
20. *School street: well in front of N. White's.		
21. Main street, near Thorndike street,	1,500	555
22. Franklin street, near Henry street,	1,500	550
23. Iron pipe to state house reservoir, and to gas-holder tank,		900
Total,		<u>\$7,905</u>

\*Supplied from reservoir in Union District, high school yard.

## FIRE-HYDRANTS.

STREET.	LOCATIONS.	Number.	Total.
Main.	South-west corner Main and Penacock.....	1	
"	East side Main, near J. B. Walker's.....	1	
"	West side Main, opposite Church.....	1	
"	North-west corner Main and Franklin.....	1	
"	North-west corner Main and Washington.....	1	
"	East side Main, opposite Chapel.....	1	
"	North-west corner Main and Court.....	1	
"	East side Main, opposite Montgomery.....	1	
"	South-east corner Main and Free Bridge road.....	1	
"	South-west corner Main and Park.....	1	
"	North-west corner Main and Capitol.....	1	
"	North-west corner Main and School.....	1	
"	East side Main, opposite Merrimack block.....	1	
"	North-west corner Main and Warren.....	1	
"	South-east " Depot.....	1	
"	North-west " Pleasant.....	1	
"	North-east " Freight.....	1	
"	North-west " Fayette.....	1	
"	East side Main, opposite Thompson.....	1	
"	North-west corner Main and Cross.....	1	
"	North-west corner Main and Thorndike.....	1	
"	North-west corner Main and Perley.....	1	
"	East side of Main, opposite Abbot-Downing Co.'s shop.....	1	
Turnpike.	North-west corner Main and West.....	1	24
State.	West side Turnpike, opposite Gas.....	1	1
"	North-west corner State and Penacock.....	1	
"	" " Walker.....	1	
"	" " Church.....	1	
"	" " Tremont.....	1	
"	North-east " Washington.....	1	
"	South-east " Downing.....	1	
"	North-east " West.....	1	
"	North-east " Turnpike.....	1	
"	West side State, opposite Court.....	1	
"	North-west corner State and Maple.....	1	
"	North-east corner State and Centre.....	1	
"	East side State, opposite state house.....	1	
"	South-west corner State and School.....	1	
"	North-west corner State and Warren.....	1	
"	North-West corner State and Pleasant.....	1	
"	East side State, opposite Wall.....	1	
"	North-west corner State and Thompson.....	1	
"	South-west corner State and Monroe.....	1	
"	East side State, opposite Laurel.....	1	19
Green.	East side Green, opposite Prince.....	1	1
South.	North-west corner South and Fulton.....	1	
"	West side South, opposite Monroe.....	1	
"	" " Laurel.....	1	
"	" " Downing.....	1	
"	West side South, opposite Wall.....	1	5
Spring.	South-west corner Spring and Oak.....	1	
"	West side Spring, opposite Cross.....	1	
"	West side Spring, opposite Perley proposed extension.....	1	3
Bradley.	East side Bradley, opposite Highland.....	1	1
Walnut.	North-east corner Walnut and Franklin.....	1	
"	West side Walnut, opposite Beacon.....	1	
"	North-west corner Walnut and Washington.....	1	3
Church.	North side Church, opposite Henry.....	1	1
Franklin.	North-west corner Franklin and Jackson.....	1	1
Centre.	North-west corner Centre and Rumford.....	1	
"	North-west corner Centre and Spring.....	1	2
Washington.	South-west corner Washington and Union.....	1	1
School.	North-west corner School and Spring.....	1	
"	" School and Merrimack.....	1	2
Warren.	" Warren and Rumford.....	1	

## FIRE-HYDRANTS.

STREETS.	LOCATIONS.	Number.	Total.
Warren.	North-west corner Warren and Green.....	1	
"	" " Spring.....	1	
"	" " Tahanto.....	1	
"	South-east corner Warren and Liberty.....	1	
"	South-west corner Warren and Merrimack.....	1	
"	North side Warren, opposite Fruit.....	1	7
Duncklee.	North-west corner Duncklee, opposite West.....	1	1
Jackson.	North-west corner Jackson, opposite Beacon.....	1	1
Pleasant.	South side Pleasant, opposite Rumford.....	1	
"	North-west corner Pleasant and Green.....	1	
"	South side Pleasant, opposite Pine.....	1	
"	South side Pleasant, opposite Liberty.....	1	4
West.	North side West, near Mills.....	1	
"	North side West, opposite Dakin.....	1	2
Railroad.	North-west corner Railroad and Railroad square.....	1	1
Pine.	South-west corner Pine and Centre.....	1	1
Perley.	North-west corner Perley and Grove.....	1	1
Laurel.	North-east corner Laurel and Pierce.....	1	1
Thorndike.	North-east corner Thorndike and Grove.....	1	1
Cross.	South side Cross, opposite Jefferson.....	1	1
Fayette.	South side Fayette, opposite Elm.....	1	1
On main pipe.	East side State, at Fosterville.....	1	1
"	West side State, at intersection of Walnut.....	1	
"	" " near city farm buildings.....	1	
"	" " near Mr. Kilburn's.....	1	
"	" " near G. E. Holden's.....	1	5
"	Hill's avenue.....	1	1
	Total.....		92
PRIVATE HYDRANTS.			
	State prison yard.....	2	
	Abbot-Downing Co.'s yard.....	2	
	Page Belting Co.'s yard.....	2	
	W. P. Ford & Co.....	1	
	Total.....		7

REGULATIONS  
FOR THE  
CONCORD PRECINCT FIRE DEPARTMENT,

ADOPTED BY THE BOARD OF ENGINEERS, JANUARY, 1874.

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ARTICLE 1. Any engine or hose company, running out a line of hose from a hydrant or steamer, shall be entitled to the pipe, although the hose of other companies may be attached in order to reach the fire; and any company coming to a fire, and finding an incomplete line of hose laid out from a hydrant or steamer, shall attach to and lengthen out such line, in lieu of laying a line of its own.

ART. 2. When two or more engine or hose companies are playing in a continuous line, the pipe shall belong to the company attaching to the hydrant or steamer, as provided in the foregoing article; but any company furnishing the *entire* line, and receiving water from a steamer, the pipe shall belong to such company so receiving.

ART. 3. Each engine and hose company shall have equal claim to the hydrants; but it is enjoined upon the engine companies to draught their own water from a reservoir, wherever a suitable one can be found within reasonable distance.

ART. 4. No company shall take possession of a hydrant or reservoir, unless their hose and apparatus for attaching to the same are at hand and ready for use. The company which shall be thus ready shall be entitled to such hydrant or reservoir; but, upon the order of an engineer, another company may attach a second line of hose from such hydrant or steamer, in case the same may be necessary,—such company having first laid its hose, and being ready to attach the same.

ART. 5. In proceeding to, working at, or returning from fires, noisy demonstrations are strictly prohibited, and it is

required of officers of companies to maintain perfect order and decorum in their respective commands during all such service.

ART. 6. No company, while returning from a fire, will be allowed to proceed faster than a walk, and at all times to keep on the right of the street. Drivers are strictly enjoined, in proceeding to a fire, to use the utmost care and caution consistent with promptness. Racing between companies is forbidden, under any circumstances. Any collision or casualty occurring to horses or apparatus will be considered a sufficient cause for the suspension of the driver in charge at the time.

ART. 7. The bells will at first ring a general fire alarm ; and, when the locality of the fire is known, the number of the ward will be struck, and repeated for the space of at least ten minutes.

ART. 8. No member of any company shall leave the city without first informing his foreman ; no foreman or assistant engineer, without first notifying the chief engineer,—in each case the party so leaving providing a substitute.

ART. 9. In case of fire, the foreman first arriving shall be in command until the arrival of an engineer.

ART. 10. Any order issued by the chief, or an assistant engineer, shall be promptly obeyed.



## WATERING THE STREETS.

The following account of the receipts and expenditures for watering the streets during the year 1876, is inserted in this report for the information of those who are interested.

### RECEIPTS.

*From persons on the east side of Main street.*

Dr. G. P. Conn,	\$10	Upham & Upton,	\$2
Onslow Stearns,	10	Wright & Hood,	2
Joseph P. Stickney,	5	Eagle Book-store,	2
Thompson & Stratton,	5	M. M. Stearns,	1
Savage Brothers,	5	Critchett & Marden,	5
C. Thorn & Son,	3	Mrs. M. M. Smith,	4
E. E. Fisher,	2	T. W. & J. H. Stewart,	5
J. D. Johnson,	1	S. & S. C. Eastman,	2
G. W. Wadleigh,	1	R. P. Staniels,	2
W. C. Elkins & Co.,	3	Chas. F. Huntoon,	3
J. E. Clifford,	5	Henry Churchill,	5
Elijah Knight,	5	Dr. E. Morrill,	2
James Moore & Sons,	5	Woodward & Baker,	5
W. B. Stearns,	5	A. T. Sanger & Co.,	5
H. H. Aldrich,	5	Joseph Welcome,	2
C. C. Webster,	5	S. Cheney,	2
W. P. Underhill & Co.,	5	C. N. Towle,	2
N. H. Savings Bank,	5	L. D. Stevens,	2
Eagle Hotel,	10	F. B. Underhill & Co.,	6
J. H. Morrill,	5	H. Strauss,	5
C. J. Dow,	2	J. Y. Mugridge,	2
E. C. Eastman,	2	S. G. Lane,	2
Jane L. Crawford,	4	Shattuck & Emerson,	5
Humphrey, Dodge & Co.,	7	Vogler Brothers,	3
Prescott Organ Co.,	2	Stanley & Ayer,	5
W. G. Shaw,	5	Phenix Hotel,	10
D. E. & C. W. Clarke,	5	Gust Walker,	5
J. T. Sleeper,	4	J. H. Gallinger,	2
W. K. Day,	1	Cummings & Young,	3
John Jackman,	1	Loren S. Richardson,	5



*East side of Main street—continued.*

Woodworth Brothers,	\$5	D. A. McCurdy,	\$5
A. W. Gale,	3	Flanders & Emmons,	5
G. W. Weeks,	5	Elm House,	5
Concord Savings Bank,	5	Charles Moore,	2
Eastman & Fitch,	5	Farley Brothers,	2
Republican Press Association,	5	James R. Hill,	7
Norman G. Carr,	3	L. A. Smith,	5
Mrs. T. H. Brown,	1	J. E. Dwight,	3
John Batchelder,	5	Ford & Kimball,	3
R. C. Danforth,			
Carter Brothers,	5		<hr/> \$323

*West side of Main street.*

Asa Fowler,	\$5	First National Bank,	\$5
Mrs. J. S. Abbot,	5	John H. Albin,	2
F. Evans,	5	A. P. Sherburne,	1
J. S. Norris,	2	J. R. Hill & Co.,	8
J. S. Norris & Co.,	5	F. E. Ingalls,	3
Cummings Brothers,	5	James Hazelton,	5
J. F. Hoit & Co.,	5	A. Leavens, to July,	3
Perkins & Dudley,	3	Sargent & Chase,	3
Kilburn & Glennon,	3	Morrill & Danforth,	3
J. H. Morey,	2	Harris & Co.,	3
C. H. Martin & Co.,	5	Underhill & Kittredge,	3
A. J. Souza,	1	D. L. Guernsey,	3
J. S. Hubbard,	2	John S. Blanchard,	5
William Gilman,	2	Dickinson & Cummings,	5
H. C. Sturtevant,	3	Frank H. Pierce,	2
James Davis,	1	E. N. Shepard,	5
J. H. Chase,	4	Hammond & Ayers,	5
Morrill & Silsby,	5	Mrs. D. B. Jones,	5
S. F. Morrill & Co.,	5	James M. Jones,	5
William Marshall,	5	Sanborn & Clark,	2
L. H. Carroll,	5	Josiah B. Sanborn,	5
H. B. Foster,	5	John H. Hill,	2
State Capital Bank,	5	Mrs. O'Brien,	2
Frank Marden,	5	N. W. Moores,	2
Miss Flanders,	5	S. Nutter,	2
Stevens & Duncklee,	6	G. L. Hooper,	2
G. H. Adams,	3		
Rev. J. A. Barry,	1		<hr/> \$199

*Warren street.*

Frank Beede,	\$1	T. W. Williams,	\$1
J. L. Pickering,	3	J. E. McShane,	1
C. W. Allen,	1	Ordway & Ferrin,	2
J. A. Dadmun,	1	John Kimball,	5
F. D. Batchelder,	1		<hr/>
			\$16

*School street.*

W. B. Durgin,	\$3	Minot & Co.,	\$5
J. E. Larkin,	5	Savings Bank,	2
James Hazelton,	2	John Coleman,	2
John H. Morse,	2	Chas. F. Batchelder,	2
Misses Knee & Knay,	1		<hr/>
			\$24

*Capitol street.*

Concord Gas Light Co.,	\$5	Cheney & Co.,	\$15
George Goodhue,	2		<hr/>
C. H. Pearson,	3		\$25

Whole amount collected, 1876,	\$581.50
From which I have paid for collecting,	\$20.00
“ “ city water-works,	200.00
“ “ city treasury,	361.50
	<hr/>
	\$581.50
Amount collected in 1873,	\$654.00
“ “ 1874,	608.00
“ “ 1875,	575.00
“ “ 1876,	581.50

Respectfully submitted,

GEORGE A. PILLSBURY,

*Supt. Repairs of Highways.*

REPORTS  
OF THE  
CITY PHYSICIAN, BOARD OF HEALTH,  
AND  
SANITARY ENGINEER  
OF THE  
CITY OF CONCORD, N. H.,  
FOR THE YEAR 1876-7.

G. P. CONN,  
G. A. CUMMINGS, } *Board of Health.*  
JOHN CONNELL, }

CHARLES C. LUND, *Civil Engineer.*

## CITY PHYSICIAN'S REPORT.

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*To the City Council:*

So far as I have been able to learn, our city has for the past year suffered as little from disease as at any time since it was incorporated. There has been no severe form of epidemic, or contagious influence, afflicting any particular section, and our death-rate compares favorably with other places having an equal population.

The rate of mortality, as shown to be normal by registrars of vital statistics in this country, is 17 in 1,000, while in Concord, estimating our population to be 14,000, it has been  $14\frac{1}{2}$  in 1,000, or 1 in 65. The greatest number of deaths occurred during the month of August, and the smallest in November. The largest number in any ward was in Ward 4 (61); the least in Ward 2, which was only 8. This is about the usual ratio in proportion to population.

Among those requiring assistance of the Overseer of the Poor, I think there have been quite as few cases of sickness as in years past; and the health of the inmates of the almshouse has been remarkably good, considering the broken-down mental and physical condition of many of those remaining in the institution.

This alone is *prima facie* evidence of the good care and treatment they receive at the hands of the superintendent and his wife.

The distance of the almshouse from the precinct renders

it an inconvenient place to take persons accidentally injured, or those suddenly taken ill, having no place to call a home.

The Overseer of the Poor should have a room or rooms at his disposal, near our business centre, to which such cases can be taken and temporarily provided for, until some better arrangement can be made, or their friends notified of their misfortunes.

It is generally conceded that the city must very soon have a building erected for the use of the police department; and I would respectfully submit to you, that, in considering a plan to meet the requirements of this department, it would be well to take this matter into consideration, and provide suitable rooms, properly furnished, for this class of persons, within the same building.

As now provided, there is no place to take an injured person, having neither money nor friends, except to the station-house or lock-up; and any one who has ever inspected this building will admit, without argument, that it was never intended for a hospital.

I think the amount paid annually to boarding-houses and hotels for this class of persons would do considerable towards fitting up rooms where they could be made comfortable at a small expense; and, as accidents are liable to occur in and about our railroad station, I have no doubt the different roads centring here would deem it a privilege to do something towards fitting up rooms for this purpose, as they have done in other cities.

As a member of the Board of Health I have had but little to do, as the city marshal is the executive officer, and generally attends to the complaints without being obliged to call a meeting of the Board; but the subject of ventilating our sewers having been referred to the Board for a report thereupon at some future meeting of the city council, it has been thought proper that such report and explanations be made at this time, that the public may receive the greatest benefit from the construction of sewer mains.

Feeling that the matter of ventilating our sewers was of paramount importance to the public, the subject has been referred to Mr. Lund, who, having superintended the surveys for all our street mains, and given the subject that attention every sanitary engineer should in order faithfully to perform his duty, is fully qualified to express his views, and his report is submitted for your consideration.

I would also call your attention to the report of A. H. Crosby, M. D., on the Water Pollution of this city. This is a matter of serious import to the people of Concord; and, while we are doing so much to improve its sanitary condition by sewers and drains, we should not ignore the fact that pure water is one of the first elements of health, and should provide against any possible contamination of our water-supply.

Gentlemen, in conclusion, allow me to call your attention to the fact that our municipal regulations are very imperfect in the manner of collecting vital statistics; that our records of deaths and burials are kept in such a manner as to be of but little use for reference; that the statute in regard to the registration of births is not enforced, nor is there any way provided for the publication of registration returns.

This is a matter of interest to the public and the physician, as showing the relative sanitary condition of the several sections of the town, as well as the prevalent diseases to be guarded against.

Respectfully submitted,

G. P. CONN, M. D., *City Physician.*

February 22, 1877.





ON THE NECESSITY OF  
A THOROUGH SYSTEM OF  
MUNICIPAL SUPERVISION

OF OUR SEWERS,

BOTH PUBLIC AND PRIVATE, THAT OUR CITIZENS  
MAY, IN THE BEST MANNER, UTILIZE  
THEIR USE.

BY G. P. CONN, M. D.,

CITY PHYSICIAN, AND MEMBER OF THE BOARD OF HEALTH.



THE NECESSITY  
OF  
MUNICIPAL SUPERVISION AND REGULATION.

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The removing from our habitations of waste and effete matter, by means of what has been termed water-carriage, has been fully tested in other cities, and is regarded, by all who have made the subject a study, as the best now known.

No one will dispute but that it is an expensive method, not only in manner, but in material. The question of utilization of sewage is being investigated by engineers and sanitarians in this country and in Europe; but until some way is developed, by far less expensive than any yet devised, we must use such as are acknowledged to be in good repute.

Irrigation has been tried in many places, but has not proved satisfactory to the friends of the system; for, while the expense so far exceeds the income, it is useless to expect it to come into general use, for the friends of the system advocate its merits on the broad ground of utility, and have in Europe obtained charters, organized stock companies, and purchased land to carry out this idea. I do not know that any enterprise of this kind has proved a financial success.

The changes of temperature incident to our climate at once render all plans perplexing, and any system, that would be practically useless for four months or more in a year, should be passed by without further consideration.

The city having brought pure water into our houses, and constructed sewer mains in nearly every street, thus furnishing the channel and means of transmission, the question

naturally arises, Have you anything more to do, or will this investment take care of itself?

I think there are but few, certainly none that have given the matter any considerable attention, but that will answer that your work has but just begun; that a careful and vigilant supervision must be maintained; that the construction of private sewers must be attended to by competent persons, of known honesty and integrity; that the people must be made aware of the great danger they will incur if imperfect or misconstructured pipes are used, or unskilful workmanship is allowed, thus rendering this great expenditure of money in vain,—for a broken or misconstructured drain is worse for the health and happiness of those who use it than none; and not only those, but, by means of the subterranean communication thus established, all that have connection with the common sewer are exposed to the direful effects of another's carelessness or inefficiency.

Thus it becomes a matter of serious import to all who have entered, or who propose to enter, our street drains, that a rigid system of municipal supervision be exercised over every part of the whole plan, as in all matters of this kind there can be no discrimination between the rich and the poor, the mansion or the tenement. All have a common object in view, and all must be governed by the same rules and regulations.

That I may be better understood, you will pardon me if I call your attention to a few of the many dangers to be guarded against while our citizens are endeavoring to utilize the advantages you have so liberally presented for their use and occupancy. First, the sewer is intended to carry away our water-supply after becoming soiled, together with the various impurities from public and private buildings, the end and object being to remove all deleterious matters in such a manner that no offence be given to sight or smell. If this could be practically accomplished, so that all filth could be deposited in running water beyond the *termini* of

each section before fermentation or putrefaction was in any manner developed, your supervision would be unnecessary. Unfortunately, facts prove this to be a delusive theory, and that decomposition is a constant factor in all sewers, whether public or private, while the new compounds, developed by putridity, are direct agents of destruction to life to all living within the range of its contamination. Dr. William Stokes, one of the first authorities in Sanitary Science, says,\*—“Sewers, streams, rivers, damp localities, collections of refuse—not alone of putrefying animal and vegetable matters, but of materials in no way offensive—have in turn proved to be manufactories of disease, not of cholera alone, but, in an enterprising mercantile spirit, of great variety, so as to suit the market.” Virchow † thinks that ordinary putrefaction will, under certain circumstances, all of which at present are not known, produce some of the Zymotic diseases, especially typhoid fever, dysentery, and diphtheria.

Liebermeister's ‡ opinion is rapidly gaining ground among medical men, whether disciples of Pettenkofer's germ theory or not, that filth furnishes a formidable foe to health, and a favorable *nidus* in which disease finds conditions ready for rapid development.

Pettenkofer, § fully believing in the germ theory, holds that a specific poison exists for Zymotic diseases, and that each disease can be produced only by its own virus or germ; and compares filth to charcoal in gunpowder. It is necessary to have it present in order to produce the explosion; but sulphur and saltpetre must also be there, and the mixture must be in the right proportions, otherwise the spark produces no fire.

In England sentiment is somewhat divided as to whether it is filth alone, or filth *plus* some particular germ or poison. Yet the fact stands unquestioned, that the removal of filth lowers the death-rate.

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\* Lectures on Sanitary Science, 1873. † Lectures in Berlin, 1874. ‡ Zur *Ætiologie des Typhus*, 1876. § *Zeitschrift für Biologie*.

Mr. Simon, chief medical officer of the Privy Council, and of the Local Government Board of Great Britain,\* says,—“ A point that needs to be recognized by all who are in any way responsible for the prevention of Filth-Diseases is, that filth does not only infect where it stands, but can transmit its infective power afar by certain appropriate channels of conveyance; that, for instance, houses, which have unguarded drainage communication with cess-pools, or sewers, may receive through such communication the same filth-infections as if excrement stood rotting within their walls; and that public or private water-reservoirs, or water-conduits, giving accidental admission to filth, will carry the infection of the filth whithersoever their outflow reaches.” “ Thus it has again and again happened that an individual house, with every apparent cleanliness and luxury, has received the contagium of enteric fever through some one unguarded drain-inlet; or that numbers of such houses have simultaneously received the infection, as an epidemic, in places where the drain-inlets in general have been subject to undue air-pressure from within the sewer.” “ Secondly, a very large danger to the public health, and particularly to the better-off classes of society, has of late years consisted in the recklessness with which house-drains, receiving pipes from water-closets, sinks, cisterns, baths, &c., in the interior of houses, and often actually within bedrooms or adjoining dressing-rooms, have been brought into communication with sewers. Among architects and builders there seems to have been very imperfect recognition of the danger which this arrangement must involve in event either of unskilful first construction, or of subsequent mismanagement or want of repair. Then, in regard to construction, an almost unlimited trust has been placed in artisans who, in not a few instances, have evidently failed to apprehend that even their mechanical work requires conscientious execution, so that under this influence there have been left in innumerable cases all sorts of escape-holes

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\* Filth-Diseases and their Prevention.

for sewer effluvia into houses, and disjointed drains effusing their filth into basements; while, under the other deficiency, house-drainage, though done with good workmanlike intentions, has often, for want of skilful guidance, been left entirely without exterior ventilation, and sometimes has, in addition, had the over-flow pipes of baths, or cisterns, acting as sewer-ventilators into the house. It is almost superfluous to say that, under circumstances of this sort, a large quantity of enteric fever has been insured; and I should suppose that also a very large quantity of other filth-diseases must have sprung from the same cause." In our country, the members of the Massachusetts Board of Health have reprinted this Essay on Filth-Diseases, and say,—“ If the practical suggestions made therein were acted upon by all citizens, hundreds of lives, now annually doomed to destruction, would be saved, and the health and comfort of the people greatly increased.” As illustrating the extreme danger arising from decomposing filth, the investigation into the causes of an epidemic of typhoid fever which occurred in 1864 at the Maplewood Young Ladies' Institute, at Pittsfield, Mass., by several of the professors in the Berkshire Medical College, affords an instructive warning. There were in this building at this time, of teachers, students, and servants, a family numbering one hundred and twelve persons; of these, fifty-six, or fifty per cent., had typhoid fever, of whom sixteen died. This epidemic occurred, too, in a season when, in a town of eight thousand inhabitants, all the physicians in practice testified that, aside from the cases at the institution, there was but very little typhoid fever, and none that proved fatal.

Had this been other than a local cause, and the inhabitants of the whole town been afflicted in the same ratio, there would have been four thousand cases of typhoid fever, with eleven hundred and forty deaths. It was, “ however, so entirely local, that some physicians in Pittsfield had no cases, others only two or three.” Prof. Palmer says of this epidemic,—“ Before the investigation the matter was spoken of



as an act of a mysterious providence, to whose rulings all must submit. Looking with the eye of science upon the overflowing cess-pools and reeking sewers as inevitable causes, and with the eye of humanity upon the interesting and innocent victims languishing in pain and peril, or mouldering in their shrouds, I could but regard such implications of providence, though perhaps sincerely made, as next to blasphemy, especially when uttered by agents who were to be held responsible,—though the prayer of charity might have been, ‘Father, forgive them, they know not what they do.’”

The sanitary reforms recommended by the Investigating Board of Physicians being carried out, Maplewood became and still remains free from diseases attributable to misconstructed sewers.

Dr. Bowditch long since gave the profession, as an aphorism, “All filth is an absolute poison;” and a sewer, being the receptacle of all manner of filthy material, may be considered as the typical *Upas-tree* that we should at all times guard our families from, it being one of those necessary evils that the massing of population requires.

This poisonous sewer gas cannot be clearly defined as it appears in its most dangerous form; but it is believed to be some product of organic matter undergoing decomposition in the presence of superabundant water, and in the absence of light and free ventilation. The dangers to which we are liable, and the necessity of public supervision, become more and more self-evident as we investigate the causes of disease. Col. Waring,\* Civil Engineer, says,—“In doing away with cess-pools, and substituting sewers, unless proper precautions are taken, we simply make an elongated cess-pool, rarely sufficiently cleansed, and often grossly foul, and communicating with the interior of every dwelling-house. If typhoid excreta are thrown into a sewer a mile away from us, we have no security against the danger that its poisonous contagium will not float in the gas of the sewer, and enter our own

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\* Sanitary Condition of Houses and Towns.



living-room." "This is a grave difficulty, but it may be almost entirely removed by a proper arrangement of the drainage-works of the house itself."

Again he says,—“ Singularly enough, no one whose premises are subject to these influences seems willing to be told the truth with regard to them.” “ No man likes to confess that his own well and his own cess-pool occupy the same permeable stratum in his garden ; that decaying vegetables in his cellar are the source of the ailments in his household ; or that an obvious odor from his adjacent pig-sty, or from his costly marble-topped wash-stand, has to do with the diseases his physician is contending against.” “ That the imperfections of our own premises are a nuisance to our neighbors is a still more irritating suggestion, and such criticism seems to invade the domain of our private rights.” “ Yet surely there can be no equitable or legal private right, whose maintenance endangers the well-being of others,—as our widespread disregard of the defects in our own houses *does endanger* the well-being of our fellow-townsmen.”

The following from the pen of Dr. William Child, in a report to the New Hampshire Medical Society,\* commends itself as a self-evident truth to any one who has had occasion to investigate cases of this kind. He says,—“ The people are not only apparently ignorant of the most common sanitary laws, but have a morbid sensitiveness on the subject. You may maltreat a man, and he will grant you pardon ; but suggest to him that his cellar is not clean, or that his drains are bad, or that his well is contaminated, or his privy is disgustingly odorous, and he will never forgive you. He calls you to treat his sick with drugs, not to tell him of his sink-drain or water-closet. He is willing that you should pocket a fee, but do not suggest to him that his premises are disagreeably filthy. He will follow his family to the grave, but you must not disturb that little but lively devil, *personal pride*.” I presume there is scarcely a physician in this city,

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\* N. H. Med. Soc. Trans., 1875.

who has not, while seeking for information as to the probable cause of some enteric disease that affected his patient, had the truth of the above forced upon him, perhaps sometimes more forcibly than elegantly expressed.

I trust enough has been said to show some of the possible dangers consequent upon the introduction of our sewers ; and, as people have to be educated in the use of everything that is new to them, it may not be out of place to give a few hints as to what is absolutely necessary in order that we may attain the object for which they were intended.

I believe it is universally acknowledged by all who have given the subject any serious consideration, that it is of prime importance to have all sewers thoroughly ventilated ; and, as Mr. Lund will in another place give the results of his investigations, especially concerning the mains, I will only refer to the necessity of ventilation of our private drains for our own protection.

Mr. Simon, to whom I have before referred, states, in his report of 1874, the following, as imperative conditions that should be insisted on whenever water-closets are allowed :

“ 1. That the closets will universally receive an unfailing sufficiency of water properly supplied to them.

“ 2. That the comparatively large volume of sewerage that the system produces can be in all respects satisfactorily disposed of.

“ 3. That on all premises which the system brings into connection with the common sewers, the construction and keeping of the closets, and other drainage relations, will be subjected to skilled direction and control.”

In his explanatory remarks, he states “ that a sufficient supply of water is a supply that will enable each closet to be well flushed whenever used, and that the supply must be not only professedly, but actually constant. The best way to secure this is to supply each closet from an independent cistern immediately above it. That every privy drain must be properly trapped and ventilated, and properly constructed, ventilation of the soil-pipe above the roof being imperative.”

Dr. De Chaumont says,—“ Under no circumstances ought there to be a water-closet opening directly into a bedroom, the merely occasional convenience of such an arrangement being more than counterbalanced by its danger, and generally objectionable situation.”

Col. Waring states, in regard to house drains,—“ That, from a sanitary point of view, a most important feature is a complete ventilation of the drain leading to the sewer, so that by no possibility can there be a forcing back into the house of gases formed in the sewer, or in the main drain. As already stated, a usual water-trap, no matter how deep, does not suffice to secure this. A water-trap having a bend of even two feet would resist a pressure of only about one pound to the square inch, while a sudden filling of the sewer, by rising tide or falling rain, to such an extent as to reduce its air-space one half, would bring to bear a pressure of fifteen pounds to the square inch; and, whether the filling be sudden or gradual, the degree to which the increased pressure would affect any given outlet would depend on the facilities offered elsewhere for the air to find vent. In our ordinary town sewerage works, it is never safe for the householder to depend on other vents than his own connecting drain being available. He must in self-defence assume that his own drain is the only channel of escape, and make it impossible that air escaping there should find its way into the house.” All offensive smells proceeding from any works intended for house drainage, indicate the fact of the detention and decomposition of ordure, and afford decisive evidence of malconstruction, or ignorant or defective arrangement. A sink without a trap, or an open cess-pool or drain, thus allowing sewerage air to find access into our dwellings, cannot fail to produce a pernicious effect upon all who may be brought within its influence.

These important matters have been too much neglected, and it cannot be doubted but that very serious results follow the neglect of the proper means to preclude the escape of the

poisonous air generated in sewers and drains. As has been observed before in this paper, the evil effect of sewerage air is not confined to the premises at fault. The closest observance of sanitary rules avails one but little if his neighbors give no heed to its claims upon health. Hence the importance of a thorough inspection and supervision of the construction of drains, and a speedy remedy of any defects that may be made apparent.

The importance of this subject claims your attention, as well as those who, in their professional character, are entrusted with the care of the public health.

We often hear it said, by persons in apparently sound health, that the conditions under which they live must be good and healthful, because they do not suffer. Again: we are told that all this talk about filth, as a cause of disease, is a fraud, a hobby of medical men, and, in support of this theory, will refer you to this or that family or neighborhood, living in apparent health amidst surroundings that are surely repulsive to the sight and smell. Much self-deception is practised in this way. Unwholesome influences may for a long time be resisted by a vigorous constitution, yet the time arrives at last when they show their power.

It is difficult to explain why an intelligent appreciation of disease, and a reasonable knowledge of the ordinary means of its prevention, are so slow in forcing themselves upon the attention of communities.

In our city, those having water-closets in their dwellings have put in the so-called pan-closet, which is condemned by those who have made the system a study. Mr. Waring, who has been quoted before in this paper, says,—“The usual pan-closet is in several ways objectionable; chiefly, as containing in the chamber beneath the pan a certain quantity of fouled water, above which is an unventilated air space—sometimes, from imperfect construction, leaking its gases into the room, always sending up a foul whiff when the pan is tipped.” Baldwin Latham, who stands unquestioned as authority in

Sanitary Engineering, speaks of it "as a cumbrous appliance, which cannot be introduced into a house without sooner or later creating a nuisance." Mr. Philbrick, C. E.,\* says,—  
 "Its defects are numerous, but its great defect arises from the reservoir of foul air always present in the iron receiver below the crockery bowl. The inside of this receiver is necessarily foul; it is quickly smeared with filth when first put to use; its interior is inaccessible, and can therefore never be cleansed. Directly below is the large metal trap, whose contents generally emit noxious gas from their decomposition; and this trap cannot safely be dispensed with. Whenever the pan is tilted and discharged, there is suddenly dropped into this receiver several quarts and sometimes a pailful of water. This must, of course, displace its own volume of the foul air pent up there, for which there is no escape in any direction but upward, with a rush past the tilted pan into the bowl, when it mixes freely with the air of the room." Another reason is, that the bowl and receiver are connected together with a putty joint, as well as the water-pipe connection. This practice among plumbers is but little better than a rag packing; for in our climate the changes from heat to cold, alternately expanding and contracting the metal, are sure to make cracks in the joints,—and, even if they did not crack, it is a well-known fact that sewer gas will find its way through putty, mortar, or cement;—therefore cement-pipes must be glazed in order to answer the requirements of house drainage.

I do not lay any claim to originality in this paper. These facts have been published again and again in works on Sanitary Engineering, and any one who will take the trouble may inform himself on all these important points. It would be well if more would do so; for, \* "however well a system of house drainage may be planned and constructed, it cannot be expected to be entirely automatic, or serve its owner for an unlimited period, without intelligent supervision. In fact, 'eternal vigilance' is the price of safety in such

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\* Mass. Board of Health, 1876.



matters in a climate where such violent and sudden changes occur as in ours. Sometimes a trap may freeze in January, and dry up in July ; deep frosts sometimes break up drains and leave them leaky ; rats burrow into and gnaw into drains, if not thoroughly built ; the gases given off by sewage often corrode lead pipes, and the ammonia in water-closets corrodes the copper pans ; valves become leaky by wear ; counterpoises get loose. But frost is our greatest enemy : a frozen water-pipe often does much damage, but a frozen drain is the climax of discomfort. With the extended use of plumbing come the increased risks of such mishaps.

“The risks of leakage of drains are of course very serious, and the difficulty of tracing such troubles to their sources renders it imperative to keep a careful record of their position, and to take alarm from the only sense by which we can often be led to detect them, acting vigorously to repair the defect when found.”

Instances might be cited to show how little is known about ventilation, water-traps, or the materials that should be used in the construction of private drains.

Let us have rigid municipal rules and regulations to govern and guide our citizens, and a competent and judicious supervisor or superintendent, to whom any and all may apply for information and advice, who will carefully investigate into every individual case, and see that nothing is left undone to secure exemption from the evils incident to a neglected or misconstructed sewer or private drain.

Then we can rest assured that an accidental sporadic case of any infectious disease, occurring in any part of our city, will not, by reason of negligence or ignorance on the part of the friends of the patient, communicate the same infection to their neighbors on the same street, or to others residing a mile away on the hill-side, perhaps in blissful ignorance that a case of infectious or contagious disease exists within the limits of the city.

If any have connected their premises with our sewer mains,

and not done it in a thorough manner so that there can be no risk with ordinary care and supervision, let them attend to it at once, and do so intelligently,—never trusting to the artisan, who has no interest beyond the number of his days' work, and, oftentimes, has no better recommendation than that he can make a good looking joint outside, though water will scarce run through the pipe from its imperfections within.

To others, who intend to make use of our sewers, I would say, "Go slow." Be sure you fully understand what you want in the way of drains and house-pipes before you begin, and then see that none but the best materials and workmanship are used, and you will have fewer troubles in tearing out and building over, and less anxiety for the safety of your families.





ON THE  
IMPORTANCE OF VENTILATION  
IN A SYSTEM OF  
SEWERAGE WORKS.

BY CHARLES C. LUND, C. E.



## VENTILATION OF SEWERS.

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The experience of the winter has made it obvious that some attention must be given to this subject at an early date. The results foreshadowed by my articles, published in the *Monitor* last fall, have already been produced in the more elevated portions of the city; and, inasmuch as this report will be placed in a more permanent form than the articles above referred to, I may be pardoned if I repeat some of the suggestions there made. I may also state that I do not claim that the suggestions here offered are to any great extent original. I shall quote freely from the works of the sanitary engineers who have written upon this subject, my object being simply to put before our citizens information gathered from sources which are not generally accessible to persons who give no special attention to the matter.

The evil effect of sewer air upon the public health is not a modern discovery, for it appears that in the flourishing days of the Roman empire "the prætor took care that all the sewers should be cleaned and repaired for the health of the citizens, because uncleared or unrepaired sewers threaten a pestilential atmosphere, and are dangerous." They had a clear knowledge of the necessity of ventilation for underground conduits, and made provision for such ventilation in the construction of their aqueducts where they pass beneath the surface. The Cloaca Maxima was one of the most perfect and stupendous works of that age, and was kept in a state of efficiency by a stream of surplus water from the aqueducts. During the republic, the surveillance of the cloacæ was one of the duties performed by the censors. They

were subjected to repair by Cato, and his colleague in the censorship, Agrippa, when *Ædile* obtained praise for his exertions in cleansing the cloacæ, and is reported to have passed through them in a boat. Many of their ventilating shafts are still in perfect order, after a lapse of nearly 3,000 years. They were constructed at intervals of about 120 feet, and served for ventilation, and admitting light and air and workmen to make repairs. An examination, made by Mr. Cresy, of the drainage works of the Coliseum at Rome, revealed drains constructed within its massive walls so as to be entirely hidden from view, which conducted away the sewage and rain-water, and that careful provision was made to prevent the odor therefrom from entering the building.

Every descending drain was open at its head, and the heads of all the drains of the building terminated in the outer corridors, which were open to the atmosphere.

The dangerous elements which exist in sewers are either the direct contagion of infective diseases from the dejecta of sick-rooms, or the result of the decomposition of animal and vegetable matter which finds its way to the sewer from our sinks and water-closets. The gases produced by decomposition of animal matter, though offensive to the smell, are not particularly dangerous to health. But the results of vegetable decomposition are most fatal to health, while some of the most subtle and deadly vapors arising therefrom cannot be detected by their odor.

Thus, the proximity of slaughter-houses may be very offensive by reason of the animal matter in various stages of decomposition almost inseparable therefrom, but they do not create an unhealthy neighborhood; but the proximity of undrained swamps, where vegetable matter is in a constant state of decomposition, is most unhealthy, producing fevers and epidemics.

The gases found in sewers are carbonic acid, nitrogen, carburetted hydrogen, sulphuretted hydrogen, ammoniacal compounds, and foetid organic vapor.

Carbonic acid is produced by all the ordinary processes of combustion—by respiration, fermentation, and by the decay of animal and vegetable products. When diluted with air it may be breathed without difficulty, but if the proportion in which it exists in the air exceeds four per cent., it acts as a narcotic poison. A proportion of ten or twelve per cent. is speedily destructive to animal life, and so small a quantity as one or two per cent. is deleterious and depressing. The drowsiness and headache experienced in crowded and ill-ventilated apartments are chiefly due to carbonic acid as the resulting product of respiration.

Nitrogen is one of the most abundant of the elements. It will not support life in its pure state, yet it has not been shown to be a poisonous gas. It constitutes four fifths of the atmosphere. It is found largely in animal, and, in small quantities, in vegetable products. One fifth of the weight of dried flesh is nitrogen. It is colorless, tasteless, and odorless in itself; but organic bodies which contain a large amount of nitrogen emit a most offensive odor when they decay, and a peculiarly offensive odor when they are burned. The odor occasioned by the putrefaction of human flesh, which is rich in nitrogen, is one of the most offensive in nature.

Carburetted hydrogen is a constant product of the decomposition of wood and other carbonaceous bodies, under water. It is the gas which arises when the mud is stirred in the bottom of stagnant pools, and, in connection with atmospheric air, forms the explosive compound known to miners as fire-damp; and it is therefore unsafe to enter an unventilated sewer with naked lights. It explodes with great violence; and care should be taken to ascertain as to its presence before introducing lanterns into the lamp-holes for purposes of inspection of sewers.

Sulphuretted hydrogen is always present in sewers in which the sewage has assumed a certain degree of putridity. It has a disgusting odor, like rotten eggs. It is heavier than

air, and burns with a blue flame, with a smell of sulphur. It is the most poisonous of all gases of known composition, and when present in very small quantities is fatal to the lower orders of animals. When inhaled, it acts directly on the blood, thickening it and turning it black. It is this gas which makes an open or foul sewer so destructive of health to any district in which it may be situated. It is produced in large quantities in sewers and cess-pools by the decay of organic matter, and its presence may often be detected in marshes, where vegetable matter alone is undergoing decay. Experiments show that one of the gas to two hundred and fifty of air will kill a horse; one in five hundred will kill a dog; one in fifteen hundred will kill small birds; and a rabbit was killed in a few minutes by being placed in a bag of this gas, though its head was not enclosed, and it was free to breathe pure air. Numerous deaths have been recorded in times past among the workmen employed in emptying cess-pools in which this gas had accumulated.

Ammonia is produced during the decomposition of animal and vegetable substances which contain hydrogen and nitrogen, and in almost every process of oxidation in the presence of moisture. It has an extremely pungent smell, and instantly kills an animal immersed in it, but when largely diluted with air is an agreeable stimulant.

But little is known of the nature and composition of the foetid organic vapor, which is more or less present in all sewers; yet it is conceded to be the most subtle and dangerous matter present in the sewer. It is either in itself the cause of disease, or it causes the germs of disease which float about on the air of sewers. It is not distinguishable by any characteristic odor, like the gases above named. This vapor can be effectually absorbed and destroyed by the use of charcoal.

Experiments made by Dr. Letheby (says Latham) on the generation of sewer gas from sewage, show that a gallon of sewage, containing 128.8 grains of organic matter, gave in



nine weeks 1.2 cubic inches of gas per hour, consisting of 73.833 of marsh gas, 15.899 carbonic acid, 10.187 of nitrogen, and 0.081 of sulphuretted hydrogen. But this was a laboratory experiment, and gave larger results than would be probably obtained from sewage taken at random from our sewers.

The effect of this sewer air upon the health of a community, and the diseases which are directly traceable thereto classed as Filth-Diseases, will be set forth in another portion of this report.

In the construction of a system of sewerage, it would be desirable to give the sewers so great a pitch that the contents thereof would pass quickly away before decomposition could take place; for it is the *decomposition* of the organic matters found in sewage that liberates the harmful elements above described.

But in practice many instances will occur where grades must be so flat that the ordinary flow of water will not be sufficient to carry along the solid matter, and it will lie as if in a cess-pool until flushed out by storm-waters, or by an artificial flow introduced from the hydrants. Some seasons many weeks will elapse before the flow from storm-waters will be sufficient to accomplish this, and in the mean time gases are generated which will constantly be seeking an avenue of escape into houses through the sinks and privy drains, unless the most thorough precautions are taken against them.

The expansion of the sewer air by heat; the natural draft upwards through the main sewers, as through a chimney; the rarefied air of our houses, by reducing the atmospheric pressure on the traps; the displacement of the air in the sewer, by varying ebb and flow of the sewage; the wind blowing into the outlets; the expansive nature of the gases themselves; variations in barometrical pressure,—all tend to expel the sewer air through the various openings made to admit the sewage itself; and against these forces we interpose

the water-trap, which, without the aid of ventilation, will prove an insufficient barrier. The power exerted by the forces above specified is very much underestimated. It is easily demonstrable to far exceed the resisting power of the traps in ordinary use; and it acts with greatest intensity in the more elevated portions of the system. And gentlemen who have established their residences on the hill for the purpose of obtaining pure air, should take especial care lest their locations become the most unhealthy by reason of the transference of the sewer gas from the lower portions, to find its easiest escape into their kitchens and bedrooms by way of their sink drains, and by the waste-pipes to their fixed wash-basins and bath-tubs. I might cite numerous instances where whole communities have suffered from epidemics of typhoid fever, directly traceable to this cause alone. It is to be constantly borne in mind, that the householder, who connects his house-drain with the public sewer, has not only to protect himself against the results of the decomposition of the waste matters of his own house, but also from all other houses whose drains empty into the river by the same outlet; and it becomes of the first importance, now that we have got our system of sewerage, to learn so to take care of it and use it that we may realize the great benefits which it ought to confer. Our system of sewerage—I mean what is known as the water-carriage system—is undoubtedly the best yet devised; but it requires the utmost care on the part of the individuals using the drain to make the plumbing arrangements of their houses perfect.

The antidote and preventive to be employed against the sewer gas is ventilation. So great a purifying power resides in the atmospheric air, that it burns up the harmful elements, liberated by decomposing matter, as by fire. It purifies by oxidation, which is a slow combustion; and, if we can mingle sufficient pure air with the tainted air of our sewers, we shall have no trouble. And so our house-drains should be so constructed that currents of pure air may be



induced through them ; and, above all, so that sewer air, if it is forced through the traps, should find an escape outside the walls of our houses.

The thorough and systematic ventilation of the public sewers themselves is of great importance, because it adds to the security that the house-traps afford by furnishing an easier escape for sewer gas than through the trap ; and if such ventilation were provided, probably the ordinary traps in use would be sufficient to bar the passage of air from the main sewer into our houses. They would act as safety-valves, so that pressure enough to force the traps could not be brought to bear. But it is not easy to suggest a system of ventilation for our street mains that shall be effective in this climate, and under the conditions which must always exist here. A system of ventilation by the man-holes, which are provided with perforated covers, is the best yet known, either with or without the use of disinfectants and deodorizers. But such a system would be ineffective here for half the year, when snow and ice would completely seal up the vents. During the present winter there has been absolutely no ventilation for our sewers, except through the catch-basins left untrapped, and on the hill a few of these basins have furnished all the ventilation which has been had ; and the residents near the localities of these basins unite in the testimony that the odors therefrom are not apparently fresh "from the spicy groves of Araby the blest." When two or three outlets of this kind do duty for a whole city, we should expect a pretty strong odor.

There have been numerous theories and experiments, for many years, having reference to this subject of ventilation of main sewers, and the prevention of the formation of sewer gas : The deodorization of sewage by chemical agents, as it flows through the sewers, has been proposed ; absorbing materials, placed within sewers to absorb the sewer gases as they were generated ; chemical agents, introduced to give off gases which might destroy the noxious properties of sewer gas ; elec-

tric and galvanic agency has been proposed as a means of destroying the noxious properties of sewer air ; suggestions for the use of high shafts, or chimneys, aided by artificial heat, have been made ; a very common proposition is, to make use of chimney shafts of manufactories, but such use naturally interferes with their use as chimneys ; special pipes, usually of metal, have been carried from the crown of the sewer under the roadway, and up the external walls of adjoining houses ; rain-water pipes have been adopted for ventilation, but not with good results—on the contrary, with very fatal results—and they were obliged to be abandoned ; ventilation by means of the lamp-posts, assisted by the heat evolved from the gas jets ; cowl-headed shafts, operated by the wind ; and other devices too numerous to mention,—all have resulted in failure as ventilators. But the system of conducting metallic pipes from the crown of the sewer, up the walls of adjoining houses, acted efficiently in allowing the air to escape when it became compressed, so operating as a safety-valve.

The system of ventilating by means of man-holes, having perforated covers placed at frequent intervals, not exceeding two hundred feet apart, in the centres of streets, has proved most effective in milder climates than ours. The object has been to take a small portion of the gas at every man-hole, and thus discharge it as fast as it arises in any part of the system. Some of these man-holes will act as down-cast shafts, and some as up-cast shafts ; and the varying conditions of the atmosphere will induce currents of air through the sewers, which accomplish the desired results. But, as before remarked, it is essential to the success of this method that the man-holes be kept open, and this would be practically impossible in this climate during the winter months. I am as yet unable to learn how this problem has been solved in any other city whose climate and situation is similar to our own. The climate of Lowell is milder than that of Concord, of course, but the conditions are somewhat similar a portion of the year, and the report of Mr. David W.

Cunningham, engineer, in 1873, informs us that the simple method of leaving the street gully untrapped, and with an open iron grating, has been, and still is, employed in Lowell as the only ventilation. He says,—“The effect of it is, that the offensive gases are thrown out into the streets at the edge of the sidewalk, and too near the front doors and windows of houses:” and further adds,—“that the best method he can suggest for economical ventilation, and that giving the least annoyance, will be to perforate the iron covers of the man-holes in the centres of the streets, and to connect the rain-water pipes from the houses with the sewers without traps: and this is the plan now generally adopted.”

It is objected, however, that in times of storm, when large quantities of water are passing into the sewer through the gullies, and, of course, displacing as much air, which is trying to escape, the water will also be passing into the sewer through the rain-water pipes, and thus preventing their doing duty as ventilators in times when they are most needed. But in the summer season, if *both* the rain-water pipes are connected and man-hole covers perforated, they might, together, furnish sufficient ventilation during the summer, but in the winter we should be compelled to rely on the water-pipes alone.

Mr. Shedd, the chief engineer of the Providence Water-Works and sewer construction, employed perforated covers to the man-holes alone, as I gather from his report in 1874. He has placed man-holes at intervals of about one hundred feet apart on the smaller sewers, and varying distances, greater than this, on the larger ones, so that the sewers may be easily inspected and obstructions removed. In our Concord system we have not placed man-holes as frequently as perhaps we ought, because of their cost; and I am inclined to think that additional ones will be found necessary after a little experience. Such was the result in the city of Worcester, where they had, from motives of economy, left long intervals between the man-holes in the original construction of the sewer.

Such openings should be made sufficiently often to enable the sewer to be easily and conveniently inspected and cleansed, and a neglect to provide these necessary appurtenances to our sewers when they are being constructed is a mistake. Frequent man-holes are necessary in all sewers, and the smaller the sizes the oftener should the man-holes be inserted, especially on the flat grades. They are necessary as ventilators ; they are necessary for the proper inspection of the sewer ; and, in case obstructions begin to form in any small sewer having man-holes at one hundred feet intervals, the obstructions can be removed without taking up and re-laying. With man-holes at long intervals, the sewers can neither be inspected nor properly flushed, and the result is, that the difficulty of cleansing leads to postponement of the work until the complete choking of the sewer compels it to be done, and then the sewer must be uncovered, broken into, and patched up, to its material and permanent injury ; and in the mean time the choked sewer is an elongated cess-pool, full of all manner of filth, putrefying and festering corruption, sending its foul odors and deadly miasmata abroad. And when the angel of death spreads his wings in our midst, and children, tender women, strong men, succumb to the pestilence bred in such a sewer, *as I fear they already have here in our own city*, it is not a visitation of Providence, but the penalty for the almost criminal neglect of the most obvious precautions.

And this leads to the subject of keeping the sewers clean. As I have before remarked, it has not been found practicable in this city to give so great a pitch to all our sewers that they will keep themselves clean by their own flow. They would carry away, even in the flattest places, a vast amount of pure water, but much of the sewage is not sufficiently diluted to flow away freely, and obstructions are liable to occur at any time, in any sewer, by reason of improper substances which find their way there. We should expect more or less sand from our unpaved streets ; but

shavings, sticks, coal, bones, garbage, bottles, spoons, knives, forks, apples, potatoes, hay, shirts, towels, stockings, floor-cloths, broken crockery, old clothes, boots and shoes, are but a portion of the substances found in the sewers, which have no business there, and which they are not intended to carry away.

I have never yet heard of a housekeeper vigilant enough to prevent a servant girl from thrusting everything which she wished to get rid of down the sink-spout, provided only that the sink-spout is large enough to receive it. To accomplish this, either the sink-spout or the servant girl must be abolished. I have no doubt that if these dumb receptacles had tongues with which to speak, they would answer the often repeated conundrum, Where do things go to?

Convenient facilities for inspection, and opportunities for flushing, intelligently employed, ought to keep our entire sewerage system in as cleanly a condition as sewers are ever capable of being kept; and, if so kept free, the dangers from sewer gases are much diminished, because of the prompt removal of the matters in which they have their origin. Such timely attention and flushing will do much to help out insufficient ventilation, and to render the exhalations from the ventilators less offensive.

Experience has shown that the points in a line of sewer where obstructions are most likely to occur, are found a short distance below the point where a steep grade intersects a flatter one—as at the foot of the high land on Pleasant, School, Warren, Centre, and all streets coming down from the hill to the more level land below. The swift flow of the water down the hill is checked at the foot on the flatter grades, and a kind of reaction takes place, which precipitates the material held in suspension in the swift flowing water, and sometimes packs it so hard that flushing cannot remove it until it is loosened by dragging. Such obstructions may be removed by a claw drawn from man-hole to man-hole by means of a rope, a smaller cord having first been passed



through by a float, by means of which the rope attached to the drag or claw is drawn through the sewer. It is rarely found that such obstructions make it necessary to take up a sewer, provided sufficient man-holes are constructed, and timely attention is given.

Having constructed our sewers, the next subject which demands attention is the manner in which the house-drains are constructed—a subject which comes more particularly within the province of the architect and builder, and demands the individual attention of every householder and tenant, as well as the general supervision of the public authorities ; for, however well sewers may be built and arranged, if the house drainage is imperfectly or unskilfully executed, it will bring its train of evils to plague us. In this subject the public also have an interest. No man has the right, by incurring the risk of disease in his own family, to endanger others to whom his disease may be communicated. I propose to make a few general suggestions as to the manner in which such drains should be constructed.

It should be first borne in mind that the prime object should be to remove refuse from the premises with all possible speed ; and where cess-pools or grease-pots are constructed, because of the need of separating the grease from kitchen drains, they should be as small as possible.

The drains should be no larger than is absolutely necessary to perform their office, and there is little danger of making them too small ; all increase of size above what is absolutely necessary is an injury, by diminishing the scouring power of the current. There is probably no building within the limits of our sewerage system, including the asylum for the insane and the state prison, that would not be amply drained by a 6-inch pipe, laid with a fall of from  $1\frac{1}{2}$  to 2 feet per hundred. Col. Waring, in his recent book on the Sanitary Drainage of Houses and Towns, relates an instance which illustrates the capacity of small pipes. A 6-inch drain pipe was laid to drain a single house. Other houses were built adjacent, and

the drain was extended to accommodate them, and so on, until, after the lapse of a few years, *one hundred and fifty houses* were connected with that 6-inch drain, which answered its purpose perfectly, and kept itself clean, and gave no trouble. Of course, the drain was used only for the waste of the families, and not for storm-waters.

A 6-inch pipe, laid with a fall of 1 in 100, will discharge 41.75 cubic feet of water per minute, or 587 barrels per hour, if running full—an amount far exceeding the probable requirements of any institution within our city limits. A 4-inch pipe, under the same circumstances, will deliver 15 cubic feet per minute, or 211 barrels per hour.

All house drains should be trapped, and the place where the trap should be located is outside the house walls, on the main house drain, after it has collected all its branches ; and this trap should have a ventilating pipe of say 4 inches in diameter, leading from the hole in the trap up the side of the house, like a rain-water spout, to the highest points of the roof, so that sewer air, if forced through the trap, may there escape.

Cement-pipe is not a suitable material for drains inside the house or under it. It is too porous to stop sewer gas. Iron, with lead joints painted, makes the best material for this purpose. Mr. Philbrick, on the subject of House Drainage, in the Report of the Massachusetts Board of Health for 1876, states that he has seen a drain well laid with Scotch pipe and full cement joints, and covered with a concrete of hydraulic cement on the cellar floor, giving off, through the cement, an amount of stench that made the cellar nauseous, even though the soil-pipe above was ventilated. Metallic pipe, not buried under the cellar bottom, but carried along above it, with well caulked joints, painted, and so placed that it can be easily inspected and repaired in case any leakage shows itself, is the best possible material for drains inside houses.

The trap outside the premises is intended to stop gas from

the main sewer. It is obvious that more or less decomposition will take place in the drain-pipes leading into this trap. This should be most carefully guarded against. It is a common practice in our best modern houses to place wash-basins in sleeping-rooms, and in dressing-rooms opening directly into sleeping-rooms. The most careful provision should be made for trapping and ventilating the waste-pipes to these conveniences, so that by no possibility can they act as conductors of foul air from the drain into the room. To accomplish this we must imitate the example of the Romans, nearly three thousand years ago, and let the head of every drain terminate in the open air outside our buildings.

The idea of inserting the head of the drain into the chimney is a popular one, and at first thought would seem to be a good one, that the draft of the chimney might effect the necessary ventilation. I can only say that those who have tried this method have been compelled to abandon it, so far as I can learn. The better way is to carry the soil-pipe, full size, up beside the chimney if possible, through the roof.

It is easy for the architect to provide for this in the construction of new houses; and in houses already constructed, where plumbing arrangements are introduced, such arrangements may be made at small expense. Those who have the means usually have the desire, also, to make these arrangements perfect in this respect; but those whose means are more limited are apt to neglect such precautions, because they think they cannot afford it, and perhaps they do not sufficiently appreciate their importance. No man is so poor that he can afford to neglect them, or so poor that he need be filthy. He cannot afford the expenses of sickness and death in his family consequent upon breathing the foul exhalations from the public sewer. I have endeavored not to overstate the dangers that threaten us as a community if the subject is neglected. We have no right to suppose that our experience will differ from the experience of other cities in this regard. I have only stated facts well known to every



man who has given attention to this subject, and which may be verified by anybody who will take the trouble to make the investigation for himself. It is a subject on which I might write a volume. The entire report of Mr. Philbrick, above quoted, as published in the Report of the Massachusetts Board of Health, is worthy of being republished here for the practical information it contains on the subject of house drainage; and those who are putting in house drains cannot do better than follow its most excellent suggestions.

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NOTE.—Dr. A. H. Crosby's report on the "Water Pollution of this city," not having been furnished to the printer in season, is necessarily omitted here.

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